CODE V Installation Guide

for CODE V Legacy Licensing
and Synopsys Common Licensing

Version 2024.03

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SYNOPSYS®

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Free and Open Source Software (FOSS) notices are located in the CODE V installation folder under \doc\foss (e.g., C:\CODEV202403\doc\foss).

Contents

Chapter 1 Getting Started 5

CODE V System Requirements 5

Licensing Requirements 6

Where You Get Your Installation Files 9

Contacting Customer Support 9

Chapter 2 Installing CODE V with Legacy Licensing 11

About Fixed and Floating License 11

What You Need for Fixed License Installation 11

Installing CODE V 12

Obtaining the Host ID for a License Dongle 14

Installing a License Key File for a Fixed License 15

Modifying Legacy License Options 16

Chapter 3 Installing CODE V with a Floating License (Legacy Licensing) 17

What You Need for Floating License Installation 18

Selecting a License Server 18

Installing the Floating License Manager on the License Server 19

Obtaining the Host ID for a License Dongle on the License Server 26

Installing the License Key for a Floating License 27

Installing CODE V on Client Machines 28

Changing Floating License Options on Client Machines 29

Managing Floating Licenses 30

Logging Floating License Usage 35

Chapter 4 Installing CODE V with an SCL Nodelocked License 39

What You Need for Nodelocked License Installation 39

Installing CODE V with a Nodelocked License 40

Obtaining the Host ID for an SCL Nodelocked License 41

Installing a License Key File for an SCL Nodelocked License 42

Modifying License Options for Synopsys Common Licensing Nodelocked Licenses 43

Chapter 5 Installing and Managing an SCL Network License....45

Selecting a License Server....46

Installing Synopsys Common Licensing on a License Server....46

Obtaining the Host ID for an SCL Network License....47

Installing a License Key for an SCL License Server....48

Installing CODE V on Client Machines....49

Modifying License Options for Synopsys Common Licensing Network Licenses....50

Managing Network Licenses....50

Appendix A Using SolvNetPlus to Obtain CODE V Software and Licenses....51

Signing Up for a SolvNetPlus Account....52

Downloading CODE V Software from SolvNetPlus....53

Ordering Media (CDs/DVDs)....56

Installing CODE V....57

Obtaining the Host ID....58

Retrieving License Keys....58

Appendix B Troubleshooting the CODE V Legacy Licensing Floating License Installation....61

Problem Adding License Keys to the License Server....61

Problems Starting CODE V....61

Appendix C Troubleshooting Synopsys Common Licensing....63

There are no remaining licenses for the requested feature....64

The license does not include the requested feature....64

Cannot connect to the license server system....64

A connection to the Synopsys Common Licensing license manager was lost....65

The license request was denied by the network license server....65

Time Tamper Error....66

CODE V cannot find the Synopsys licensing service/daemon (snpslmd)....66

Uninstall Synopsys Common Licensing....66

Glossary....67

Chapter 1 Getting Started

This chapter applies to all users. It contains links to CODE V system requirements, describes the CODE V license methods, and tells you how to contact CODE V Support.

CODE V System Requirements

Before installing, confirm that your computer meets the system requirements required to run CODE V. Additional requirements exist depending on the licensing method used and whether licensing is centrally managed. See *Licensing Requirements* on page 6

Operating systems supported

- Microsoft Windows 10 and Microsoft Windows 11, 64-bit, with the latest updates
- Microsoft Windows Server Standard 2012 R2 and Windows Server Standard 2016 with the latest updates. (You must use a floating license to run CODE V on Microsoft Windows Server Standard)

RAM required

- 2 GB minimum, 3 GB recommended
- 4 GB recommended for parallel processing with 8 or more cores. (Parallel processing is supported by CODE V's optimization and Beam Synthesis Propagation features. Use of 4 GB RAM requires a 64-bit version of Windows)

Display Resolution

- 768 pixels, minimum vertical resolution
- 1920 x 1080 pixels or higher, recommended resolution

Available USB port

- Required when using a CODE V license dongle

Processors

- Intel or AMD processors that support x64
- CODE V includes several built-in optical analyses that support multi-processing on PCs with multiple cores. These functions include optimization, Beam Synthesis Propagation, and select Macro-PLUS functions.
- Intel Itanium processors are not supported

Note that hardware and system requirements for computers that will run CODE V are also online:

https://www.synopsys.com/optical-solutions/codev/hw-systems.html

PDF Viewer

The documents in the CODE V Documentation Library are provided as Portable Document Format (PDF) files. You are able to view PDF files in any PDF viewer but they may not support PDF features such as links that you can click to jump to another document. To use full PDF features, you must have Acrobat Reader version 8.x or higher installed on your computer and set as your default PDF viewer. Note that for many systems, the default PDF viewer is a browser (e.g., Edge, Chrome).

Licensing Requirements

CODE V provides two methods for licensing:

- CODE V Legacy Licensing

  This method of licensing is used in releases up to and including CODE V 2024.03. Customers who are migrating from previous versions of CODE V to 2024.03 should continue to use Legacy Licensing unless informed otherwise by your Synopsys Optical Solutions representative (or your local application license administrator). Legacy Licensing is the default installation choice. For additional information, see *CODE V Legacy Licensing Requirements*.

- Synopsys Common Licensing (SCL)

  This method of licensing is available for new customers beginning with CODE V 2023.03. SCL is the license system used by many Synopsys products. You will be instructed by a Synopsys Optical Solutions representative (or your local application license administrator) whether to use SCL. During installation, you must select SCL to install it. For additional information, see *Synopsys Common Licensing Requirements* on page 8.

To install CODE V with either of these licensing methods, you must have license keys provided by Synopsys Optical Solutions via SolvNetPlus SmartKeys or your local CODE V software distributor.

Note: Host IDs are specific to each licensing method and are not interchangeable between the two methods.

For information on choosing between these two types of licensing, see:

https://www.synopsys.com/optical-solutions/support/choosing-license-option.html

The following modules require a separate license that may be purchased as an add-on to an SCL license:

- MetaOptic (CVMOD_BASE)
- Highly Aspheric Lens Desensitization - SNA (CVIMEASPDESENS)

CODE V Legacy Licensing Requirements

With CODE V Legacy Licensing, you can run CODE V using either a *fixed* license or a *floating* license.

- A fixed license allows you to run CODE V only on the computer on which it is installed (see *Installing CODE V with Legacy Licensing* on page 11).
- A floating license allows you to run CODE V on any client computer installed on the same network as a Floating License Manager server (see *Installing CODE V with a Floating License (Legacy Licensing)* on page 17).

The number of users that can use CODE V concurrently is limited to a predetermined number by the license management software.

To install CODE V with CODE V Legacy Licensing, you must have:

- A dongle acquired by you or your site's license administrator from your local Synopsys Sales Representative.
- An available USB2.0 (or higher) port (for Type A).
- If you will be running CODE V with a floating license, you must also have:
  - TCP/IP network protocol.
  - Floating license manager software provided by Synopsys Optical Solutions. This guide provides instructions for installing the Synopsys Optical Solutions Floating License Manager (a Sentinel RMS license manager that has been customized for Synopsys Optical Solutions software), which is provided on SolvNetPlus. See *Using SolvNetPlus to Obtain CODE V Software and Licenses* on page 51 for details.

Synopsys Common Licensing Requirements

With Synopsys Common Licensing (SCL), you can run CODE V using either a *nodelocked* license or a *network* license.

- A nodelocked license allows you to run CODE V only on the computer on which it is installed (see *Installing CODE V with an SCL Nodelocked License* on page 39).
- A network license, which is installed on a network server running the SCL license server, allows you to run CODE V on any computer on the same network (see *Installing and Managing an SCL Network License* on page 45).

The number of users that can use CODE V concurrently is limited to a predetermined number by the license management software.

The CODE V product installer installs both CODE V and SCL. The installation process differs depending on the intended use of your computer:

- A computer that runs CODE V where its license is not managed by an SCL license server and is installed as *Nodelocked*. A nodelocked license allows you to run CODE V only on the computer on which it is installed. See *Installing CODE V with a Nodelocked License* on page 40.
- A computer that runs CODE V where its license is managed by a license server and is installed as a *Network (Client Installation)*. See *Installing CODE V on Client Machines* on page 49. This client computer must:
  - be set up with the server name and port number (the default port is 27020) of one or more license servers. Your company's SCL license administrator will provide you with that information.
  - be on the same network as the license server.
  - communicate with the license server using the TCP/IP network protocol.
- A computer that will manage SCL network licenses for other computers is installed as a *Network (Server Installation)*. The SCL license administrator uses this computer to manage licensing for their site. A site may have more than one license server. This computer must:
  - be on the same network as the network clients running CODE V.
  - use the TCP/IP network protocol.

  Note that while the CODE V software is installed to this computer by default, it will not use a network license unless CODE V is run on the computer.

If your company uses dongles as a part of their licensing method, the nodelocked computer and license server will need:

- A dongle acquired by you or your site's license administrator from your local Synopsys Sales Representative.
- An available USB2.0 (or higher) port (for Type A).

If you are the CODE V license administrator or IT administrator who will install the Synopsys Common Licensing server, see also *Selecting a License Server* on page 46.

Where You Get Your Installation Files

Where you get your files depends on how you purchased CODE V:

- Customers who work directly with Synopsys Optical Solutions will retrieve their software and license keys from the Synopsys SolvNetPlus website. For details about obtaining CODE V software and license key files, see Appendix A, “Using SolvNetPlus to Obtain CODE V Software and Licenses” on page 51.
- Customers who work with a CODE V software distributor will obtain their software and license keys from their local distributor. See the Synopsys Optical Solutions Group Global Contacts page for contact information.

Contacting Customer Support

Need expert help using our software?

- Open a support ticket in SolvNetPlus. Learn more about how to access and use Synopsys SolvNetPlus.
- Email codev_support@synopsys.com.
- The SolvNetPlus Knowledge Base features a collection of searchable technical articles, example files, macros, release notes, FAQs, and more, available at any time. First log into SolvNetPlus, then go to the Collection of Optical and Photonic Solutions Knowledge Article.
- Visit our main Support page for an overview of how to access product learning, self-help, and other resources.
- Visit our Licensing and Installation Help page.
- View our list of global support contacts.

Chapter 2 Installing CODE V with Legacy Licensing

This chapter describes how to install CODE V with a fixed license, which allows you to run CODE V only on the computer on which it is installed. Note that all instructions are for the Microsoft Windows operating system.

About Fixed and Floating License

You can run CODE V using either a *fixed* license or a *floating* license. A fixed license allows you to run CODE V only on the computer on which it is installed. A floating license, which is installed on a network server, allows you to run CODE V on any client computer installed on the same network (see *Installing CODE V with a Floating License (Legacy Licensing)* on page 17). The number of users that can use CODE V concurrently is limited to a predetermined number by the license management software.

What You Need for Fixed License Installation

Fixed licenses are standalone software copies to be used on one computer only. You will need the following to run CODE V on a fixed-license system:

- **USB Dongle** – the dongle comes with a label that shows its Host ID.
- **License Key File** – a license key file that corresponds to your CODE V license and to the Host ID of the USB dongle you are using.
- **CODE V** – You need a copy of CODE V installation files.

For details, see Appendix A, “Using SolvNetPlus to Obtain CODE V Software and Licenses” on page 51.

Note: For customers working with distributors, please contact your local CODE V software distributor to obtain your software and license. See the Synopsys Optical Solutions Group Global Contacts page for contact information.

Installing CODE V

These instructions assume that you have already have the USB dongle, a license key file and the CODE V installation files. Your working folder is the location where your user-created files are stored. By default, your working folder is set by default to C:\CVUSER. You can change this location during installation or in CODE V after installation.

1. Log on to your computer as Administrator.
2. Navigate to the folder that contains the CODE V installation package.
3. Double-click the file **CODEV*version*.exe**.

   where *version* is the version number for the release.

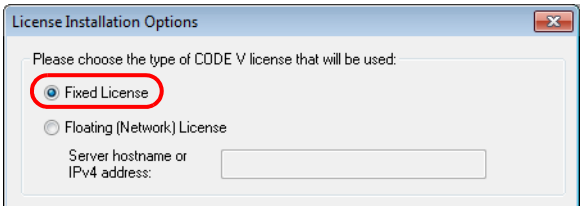
   – If a User Account Control dialog box is displayed with the message *Do you want to allow this app to make changes to your PC?*, click **Yes** to continue.

   The installation files are extracted, and then the Welcome to the InstallShield Wizard page is displayed.
4. Click **Next** to continue to the License Agreement page.
5. If you accept the agreement, click **Yes** to continue to the Choose Destination Location page.
6. To accept the default location for the program, click **Next**.

   The Choose Working Folder page is displayed. The working folder is used to store your user files.
7. To accept the default location for the working folder, click **Next**.

   – If you previously installed CODE V you will be prompted to confirm whether to use the existing directory. Click **Yes** to accept and continue to the License Installation Options page.

   – If this is a new installation, you will continue to the License Installation Options page.
8. The License Installations Options page informs you that CODE V Legacy Licensing will be used. Click **Next**.
9. When asked to choose the type of license to use, be sure that the **Fixed License** option is selected (this is the default setting).

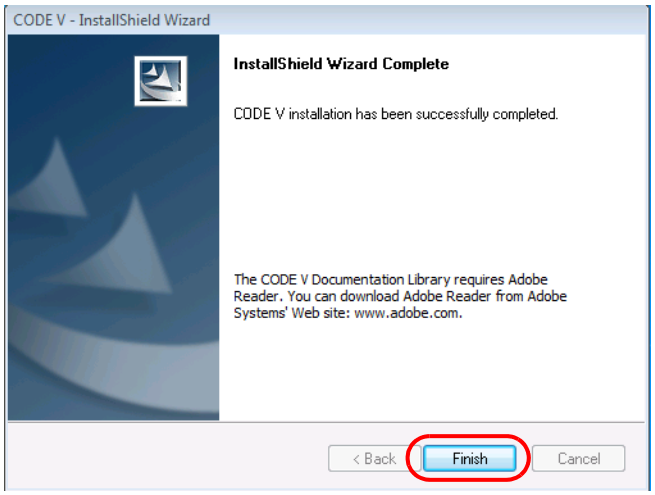


10. Click **Next** to continue.
11. In the Start Copying Files page, confirm your information.

    – If the information is correct, click **Next**.

    – If a correction is needed, use the **Back** and **Next** buttons to navigate between pages. Make your corrections and then return to this page before clicking **Next**.

12. When the installation is complete, click **Finish** to close the wizard.



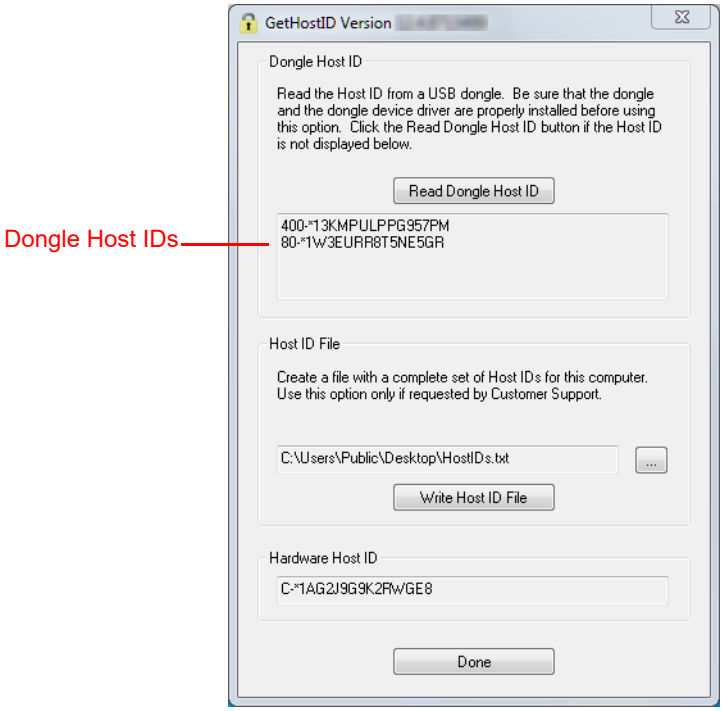
If you already have a license key for this product, skip to “Installing a License Key File for a Fixed License” on page 15. If you do not yet have a license key, continue with “Obtaining the Host ID for a License Dongle” on page 14.

Obtaining the Host ID for a License Dongle

A license key is designed to work for only one USB dongle, so the license key is associated with a unique value encoded on the dongle called a *Host ID*. Before you can request a license key you must know the Host ID for the license dongle. The Host ID is printed on a label on the USB dongle. You can also obtain the Host ID by running GetHostID, which reads it from the dongle. If you need to provide your Host ID to CODE V Support or Sales, the recommended method is to use GetHostID to generate a file that you can send. Follow these steps to run the GetHostID utility.

1. Insert the USB dongle in an active USB port. The beacon on the dongle should be illuminated. If not, try connecting it to a different USB port.
2. Click the Windows Start button and select **CODE V 2024.03** > **GetHostID**.

   In the following figure, the GetHostID utility displays two lines under the Read Dongle Host ID button, which indicates that two USB dongles are active on this computer.



   If the box is empty, click the **Read Dongle Host ID** button. If the box remains empty, check the dongle to see whether the LED on it is lit. Light indicates that the dongle has been plugged-in properly. If the LED is not lit, check the connection or try inserting the dongle into a different USB port.
3. To create a HostIDs text file (.TXT) that you can send to CODE V Support or Sales, in the GetHostID dialog box click **Write Host ID File** and then click **OK**. (If you cannot send the Host IDs file, open the file, copy the contents of the file and paste it into an email message that you send to Customer Support or Sales.)
4. To copy the Host ID, select the Host ID, right-click and then click **Copy**. You can then paste the Host ID into your desired destination.
5. Click **Done** to close the GetHostID utility.

6. Continue with “Retrieving License Keys” on page 58 for instructions on retrieving your license key file from the Synopsys SolvNetPlus website. After you have your license key, go to “Installing a License Key File for a Fixed License” on page 15.

Installing a License Key File for a Fixed License

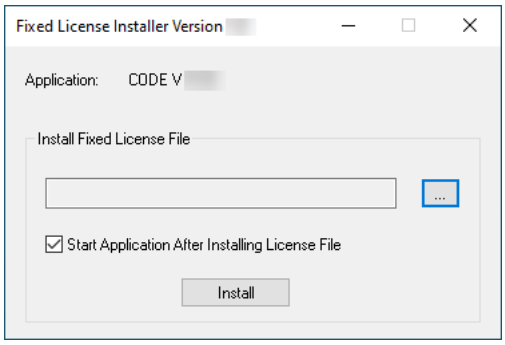
A valid license key file must be installed before you can run CODE V. This procedure assumes that CODE V is installed (see “Installing CODE V” on page 12) and that you have your license key file (“Retrieving License Keys” on page 58).

Note: If you start CODE V before you install your license key file, the License Manager Error dialog box will be displayed. Insert the USB dongle in an active USB port and then click **Install License** in the error dialog box to display the Fixed License Installer. Skip to step 3 in the following procedure.

Follow these steps to install your license key file.

1. Insert the USB dongle in an active USB port.
2. To install your license key file, click the Windows Start button and select **CODE V 2024.03 > Fixed License Installer**.

   The Fixed License Installer is displayed.



3. Click the browse button ... .
4. Navigate to the license key file, select it, and click **Open**.

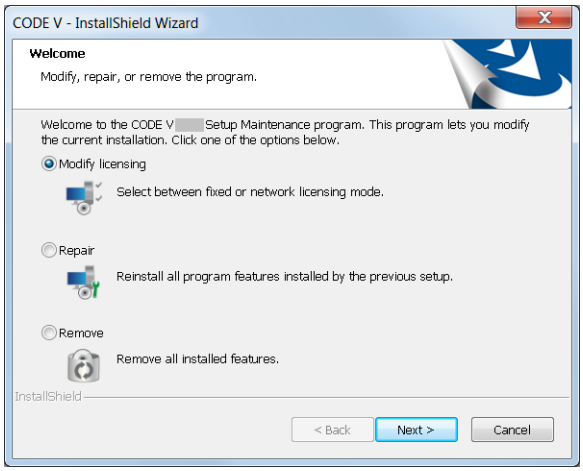
   The path to the license key file is shown in the Fixed License Installer.
5. (Optional) The **Start Application After Installing License File** is selected by default. You can clear the check box, if desired.
6. Click **Install**.

   The license key file is installed. If the **Start Application After Installing License File** check box was selected, CODE V starts automatically.

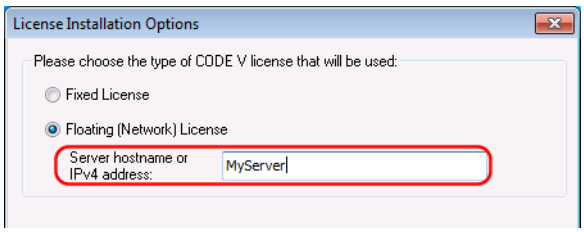
Modifying Legacy License Options

If you need to change the Legacy license type for your CODE V installation (fixed or floating) or change the host name of the license server to use with a floating license, use the following procedure.

1. Search for and open **Add or Remove Programs**.
2. In Programs and Features**, c**lick the CODE V version you want to modify and then click **Uninstall**.
3. When Windows asks if you want to uninstall, click **Uninstall**.
4. In the InstallShield Wizard *Welcome* page, the **Modify Licensing** option is preselected.



5. Click **Next**.
6. In the **License Installation Options** page, click **Next**.
7. Select the type of license to use. If you are switching to a floating license, enter the server hostname or IPv4 address for the floating license server. Click **Next**



8. On the **Maintenance Information** page, confirm your changes and click **Next**.
9. Click **Finish** to close the wizard.

Chapter 3 Installing CODE V with a Floating License (Legacy Licensing)

This chapter describes how to install CODE V so that a set of CODE V floating licenses (for Legacy Licensing) can be shared by a group of computers on the same network. The number of users that can use CODE V concurrently is limited to a predetermined number by the licensing software. A single user can open up to eight concurrent CODE V sessions per floating license per computer. If a user opens more than eight concurrent CODE V sessions on the same computer, an additional floating license will be used (if available). Note that all instructions are for the Microsoft Windows operating system.

The floating license capability requires Synopsys Optical Solutions Floating License Manager, which is a Sentinel RMS license manager that has been customized for Synopsys Optical Solutions software. If you install other Synopsys Optical Solutions software products, they will share the same license management software, and their licenses will be written to the same license key file. The applications cannot share licenses; they will share only the license server software.

Note: Installing a floating license requires system-administration level training, and should be performed by someone who is familiar with your network structure. Also, note that you must be logged in as administrator on the license server.

The steps for installing CODE V to run with a floating license are:

1. *Selecting a License Server* on page 18
2. *Installing the Floating License Manager on the License Server* on page 19
3. *Obtaining the Host ID for a License Dongle on the License Server* on page 26
4. *Installing the License Key for a Floating License* on page 27
5. *Installing CODE V on Client Machines* on page 28
6. *Optional: Managing Floating Licenses* on page 30
7. *Optional: Logging Floating License Usage* on page 35

What You Need for Floating License Installation

Floating licenses are run on a license server, and operate as a service to client computers attached to the network. The license server and client computers must be able to communicate with each other using the UDP protocol. You will need the following items to run CODE V:

License Server

- **USB Dongle** – the dongle comes with a label that show its Host ID.
- **License Key File** – a license key file that corresponds to your CODE V license and to the Host ID of the USB dongle you are using.
- **Floating License Manager software** provided by Synopsys Optical Solutions. This guide provides instructions for installing the Synopsys Optical Solutions Floating License Manager (a Sentinel RMS license manager that has been customized for Synopsys Optical Solutions software). See also “CODE V System Requirements” on page 5.

CODE V Client

- **CODE V** – You need a copy of CODE V installation files. Note that the license key file is needed only on the license server; no license key file is needed on client computers.
- **Server Host Name** – the name of the server that is hosting the floating license manager. You must enter this information during installation.

Selecting a License Server

Before installing any software, you must identify the computer that will act as the floating license server. This must be a computer connected to a network that can grant access to one or more client machines.

Note: The Synopsys OSG Floating License Manager communicates with its clients over port 5093 using the UDP protocol. If you will be managing licenses for client computers across different subnets, you must configure your routers or firewalls to allow two-way communication across this port.

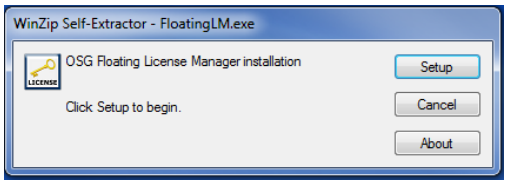
Installing the Floating License Manager on the License Server

Follow these steps to install the Floating License Manager (FLM) on the license server. You obtain the Synopsys Optical Solutions Floating License Manager software from the same source that provides your CODE V software (e.g., SolvNetPlus or your local distributor). See *Downloading CODE V Software from SolvNetPlus* on page 53.

Note: Whenever a new version of CODE V is released, the software on the client machines must be updated. Check the latest *CODE V Release Notes* to see if the Floating License Manager software and/or the license key file must also be updated.

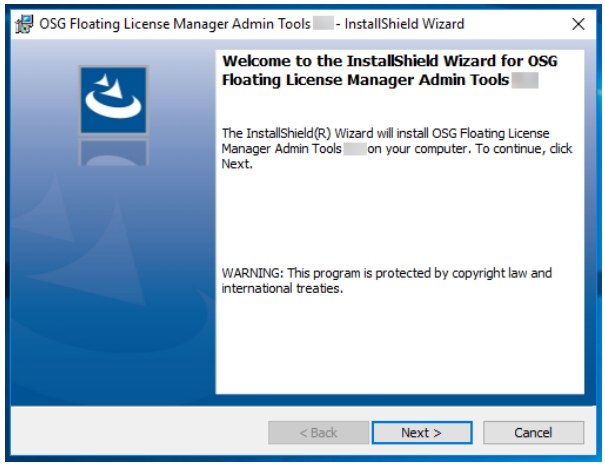
1. Log on with administrator privileges to the computer that will act as the license server.
2. If you have previously installed the either the ORA or OSG Floating License Manager, it also installed the Sentinel RMS License Manager software; you must uninstall *both* before installing the latest version.
   a. Open **Control Panel** and select **Programs and Features**.
   b. Select the program to uninstall and then click **Uninstall/Change**.
   c. Follow the instructions on screen.
   d. Repeat these steps to uninstall additional software.
3. Navigate to the folder where you downloaded the Floating License Manager, FloatingLM*version*.exe.
4. Double-click the file **FloatingLM.exe**.

   The WinZip Self-Extractor for the OSG Floating License Manager installation is displayed.



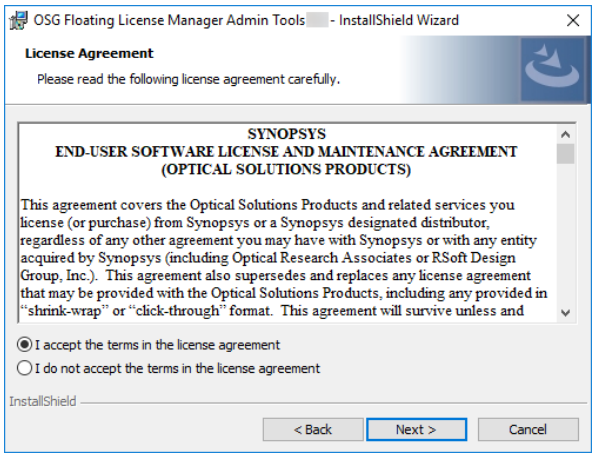
5. Click **Setup**.

   The Welcome screen for the OSG Floating Manager Admin Tools wizard is displayed.



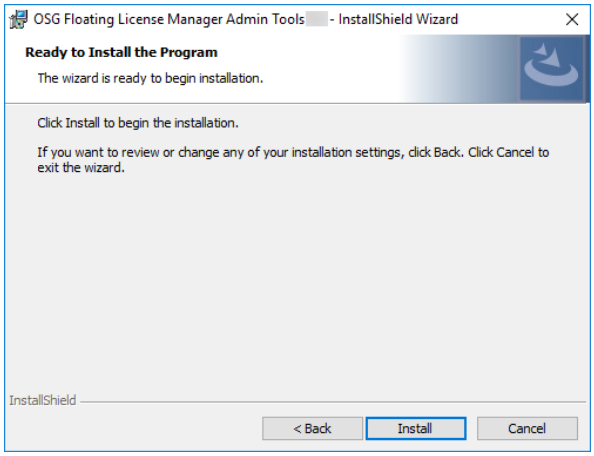
6. Click **Next**.

   The License Agreement screen for the OSG Floating License Manager Admin Tools is displayed.



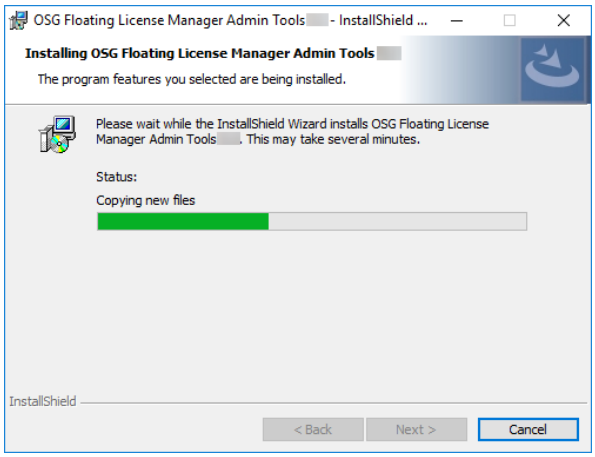
7. Click the **I Accept** option and click **Next** to continue.

   The Ready to Install screen is displayed.



8. Click **Install**.

   The progress screen is displayed while the software is installed.

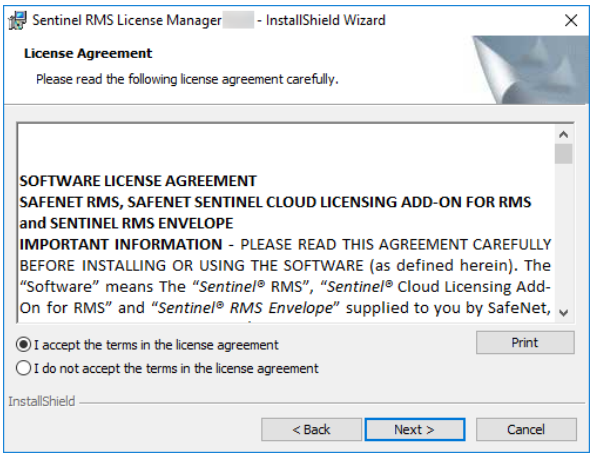


9. Accept the default settings for all options.

   The Welcome screen for the Sentinel RMS License Manager is displayed.

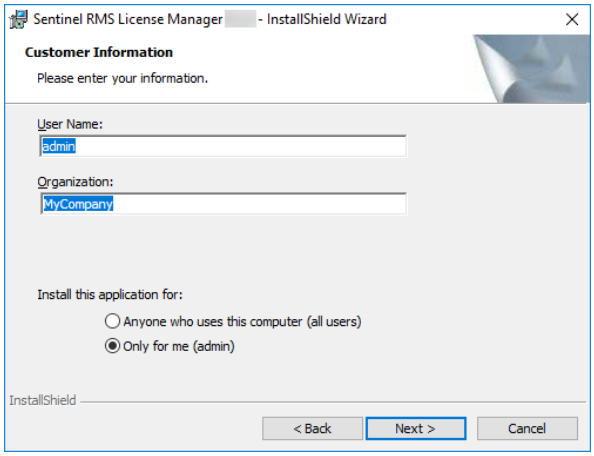
10. Click **Next**.

    The License Agreement screen for the Sentinel RMS License Manager wizard is displayed.



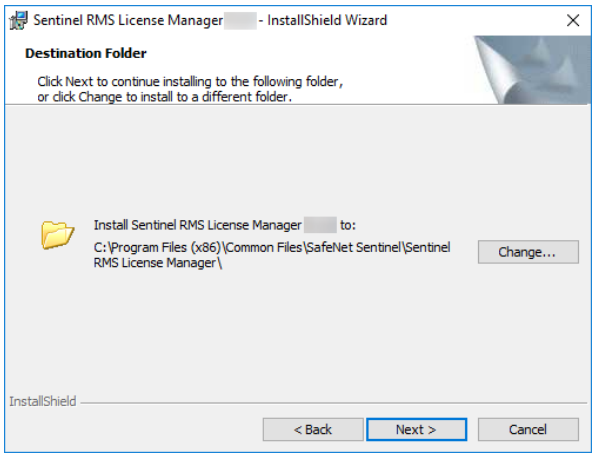
11. Click the **I Accept** option and then click **Next** to continue.

    The Customer Information dialog box is displayed.



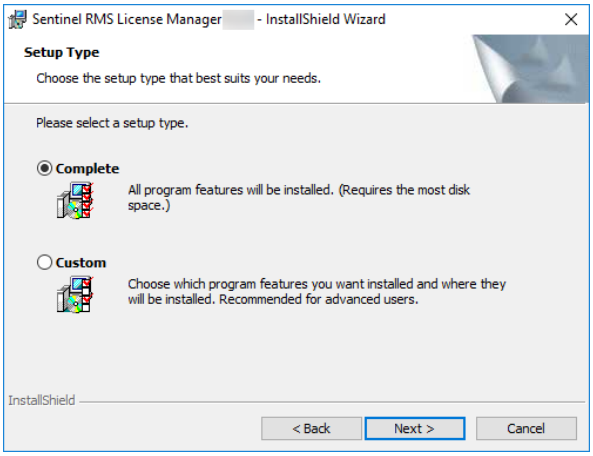
12. Click **Next** to accept the defaults and continue.

The Destination Folder screen is displayed.



13. Click **Next** to accept the default and continue.

    The Setup Type screen is displayed.

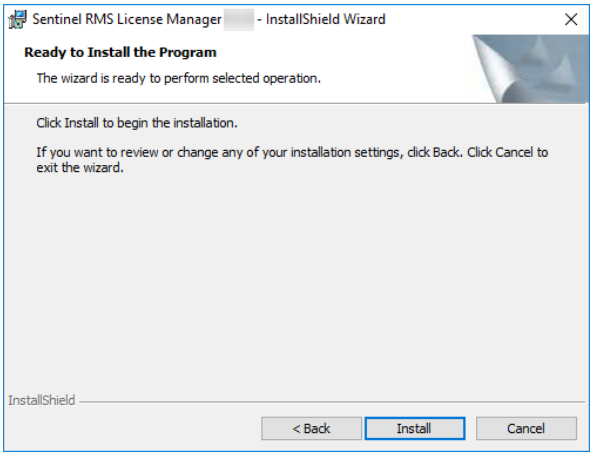


14. Click **Next** to accept **Complete** (recommended) and continue.

The System Firewall Settings screen is displayed. Do not clear the check box; it must remain selected so that the Sentinel RMS Floating License Manager can add inbound rules for the executable (lservnt.exe). If you clear this setting CODE V will not be able to obtain the license needed to run.

15. Click **Next**.

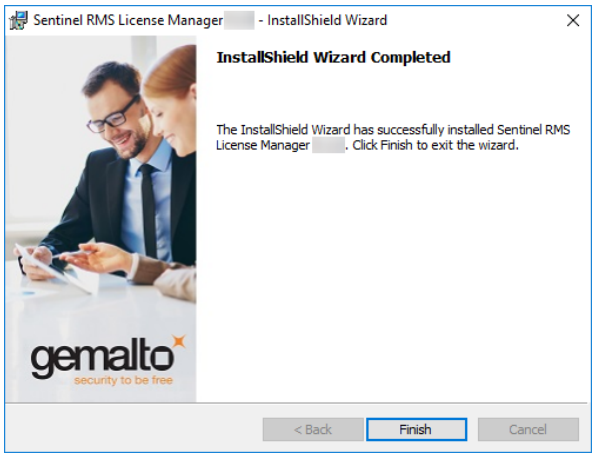
    The Ready to Install screen is displayed.



16. Click **Install**.

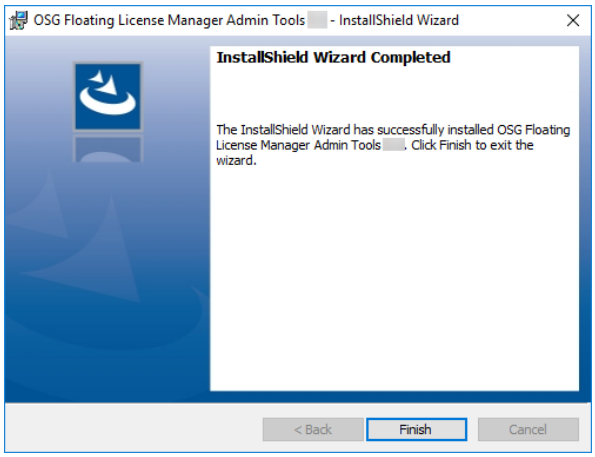
    The progress screen is displayed while the software is installed.

When the installation is finished, the Completed screen for the Sentinel License Manager is displayed.



17. Click **Finish**.

    The Completed screen for the OSG Floating License Manager Admin Tools is displayed.



18. Click **Finish**.

    The installation is complete.

19. Reboot your computer if prompted to do so.

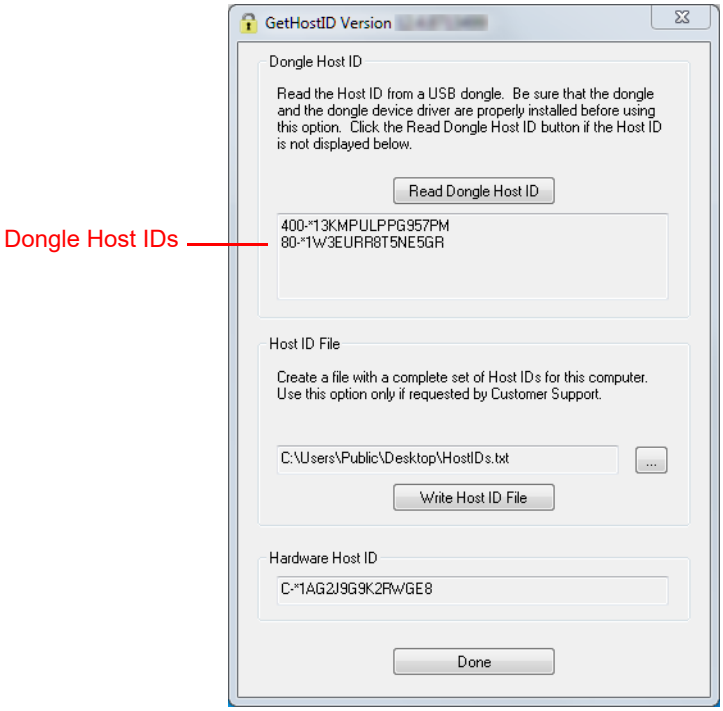
    If you already have a CODE V license key file, skip to *Installing the License Key for a Floating License* on page 27. If you do not yet have a license key file, continue with *Obtaining the Host ID for a License Dongle on the License Server* on page 26.

Obtaining the Host ID for a License Dongle on the License Server

A license key is designed to work for only one USB dongle, so the license key is associated with a unique value encoded on the dongle called a *Host ID*. Before you can request a license key you must know the Host ID for the license dongle. The Host ID is printed on a label on the USB dongle. You can also obtain the Host ID by running GetHostID, which reads it from the dongle. If you need to provide your Host ID to CODE V Support or Sales, the recommended method is to use GetHostID to generate a file that you can send.

1. Insert the USB dongle in a USB port on the license server. The beacon on the dongle should be illuminated. If not, try connecting it to a different USB port.
2. Click the Windows Start button and then select **OSG Floating License Manager** > **GetHostID**.

   In the following figure, the GetHostID utility displays two lines under the Read Dongle Host ID button, which indicates that two USB dongles are active on this computer.



If the box is empty, click the **Read Dongle Host ID** button.

3. To create a HostIDs text file that you can send to CODE V Support or Sales, click **Write Host ID File** and then click **OK**. (If you cannot send the Host IDs file, open the file, copy the contents of the file and paste it into an email message that you send to CODE V Support or Sales.)
4. To copy the Dongle Host ID, select the Host ID, right-click and then click **Copy**. You can then paste the Host ID into your desired destination.
5. Click **Done** to close the GetHostID utility.
6. Continue with "Retrieving License Keys" on page 58 for instructions on retrieving your license key file from the Synopsys SolvNetPlus website. After you have your license key, go to "Installing the License Key for a Floating License" on page 27.

Installing the License Key for a Floating License

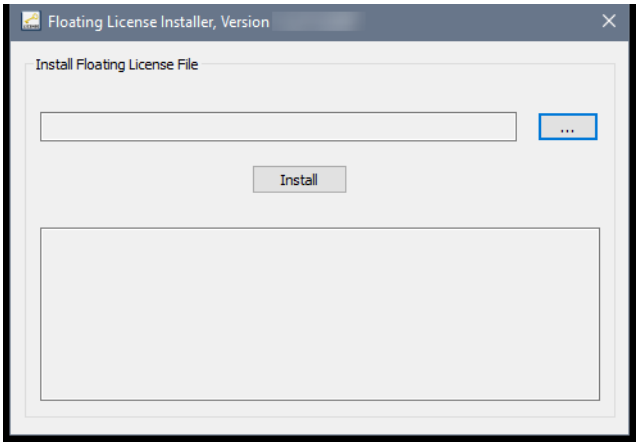
After you install the license server software and retrieve a license key, you need to install the license key on the license server before client machines can successfully run CODE V. The Floating License Installer is provided for this purpose.

This procedure assumes that you have already obtained a valid CODE V *license.dat* file from the SolvNetPlus SmartKeys web page or from your local distributor. To retrieve the file from SolvNetPlus, see "Retrieving License Keys" on page 58 for instructions.

Follow these steps to install your license key file.

1. Make sure that the license dongle is inserted in an active USB port on the license server.
2. Click the Windows **Start** button and select **OSG Floating License Manager** > **Floating License Installer**.

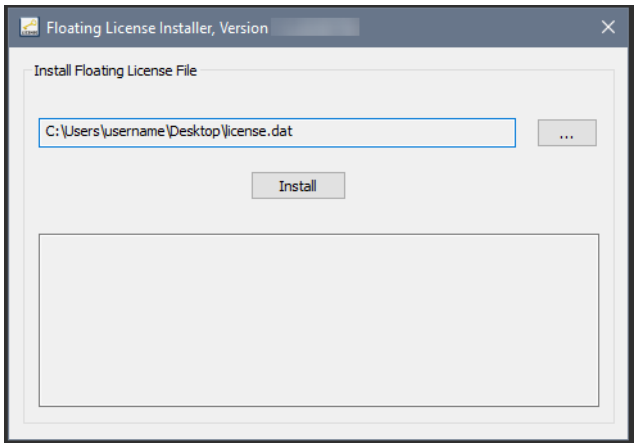
   The Floating License Installer is displayed, as shown in the following figure.



3. Click the Browse button ... .

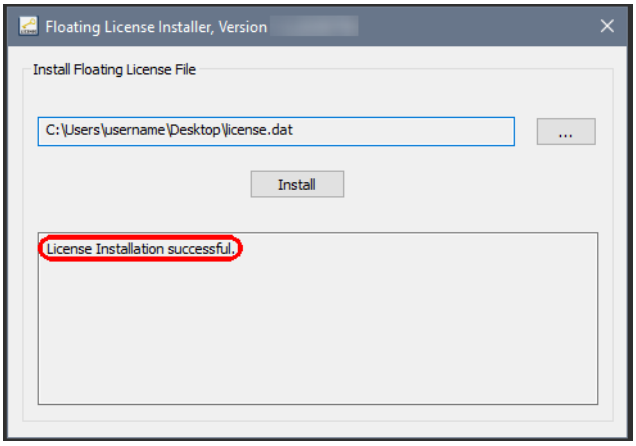
4. In the Open dialog box, navigate to the license key file, select it, and click **Open**.

   The Open dialog box is closed, and the path to the license key file is shown in the Floating License Installer.



5. Click the **Install** button.

   The license key file is installed, and the Success dialog box is displayed.



6. To close the Floating License Installer, click the **X** in the top right corner.

   Continue with “Installing CODE V on Client Machines” on page 28.

Installing CODE V on Client Machines

CODE V must be installed on each client machine where it will be used. During the installation, choose **Floating License** as the license type, and enter the name of the license manager in the **Server Hostname** field.

These instructions assume that you have already obtained CODE V from SolvNetPlus or your local distributor.

1. Log on to your computer as Administrator.

2. Navigate to the folder that contains the CODE V installation package.
3. Double-click the file **CODEV*version*.exe**.

   where *version* is the version number for the release.

   – If a User Account Control dialog box is displayed with the message *Do you want to allow this app to make changes to your PC?*, click **Yes** to continue.

   The installation files are extracted, and then the Welcome to the InstallShield Wizard page is displayed.
4. Click **Next** to continue to the License Agreement page.
5. If you accept the agreement, click **Yes** to continue to the Choose Destination Location page.
6. To accept the default location for the program, click **Next**.

   The Choose Working Folder page is displayed. The working folder is used to store your user files.
7. To accept the default location for the working folder, click **Next**.

   – If you previously installed CODE V you will be prompted to confirm whether to use the existing directory. Click **Yes** to accept and continue to the License Installation Options page.

   – If this is a new installation, you will continue to the License Installation Options page.
8. The License Installations Options page informs you that CODE V Legacy Licensing will be used. Click **Next**.
9. When asked to choose the type of license to use, be sure to select the **Floating (Network) License** option.
10. Next to the **Server Hostname or IPv4 Address** option, enter the name or the IPv4 address for the computer on which the license manager was installed and click **Next** to continue. In the following figure, the name *OpticServer* is used as an example; be sure to enter the name of your license server.

11. When the installation is complete, click **Finish** to close the wizard.

Changing Floating License Options on Client Machines

If you have already installed CODE V to a client machine and then want to switch from a fixed to floating license or change license servers, refer to “Modifying Legacy License Options” on page 16 to see how to modify license options on a client machine.

For example, in step 7 of that procedure you can change the floating license server hostname or IPv4 address to make a correction or to point the client machine to a different floating license server.

Managing Floating Licenses

In general, there is nothing that you need to do to administrate floating licenses. As long as the license server machine is operational, connected to the network, and is running the Sentinel service, licenses are available to clients.

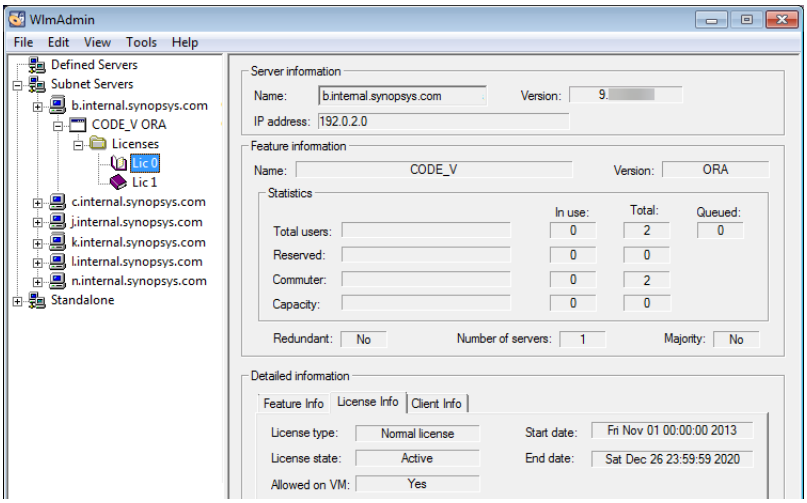
Monitoring License Use

It is possible for all available licenses to be in use, which would prevent additional clients from running **CODE V**. In such cases, a system administrator can use the WlmAdmin utility to determine to whom the module licenses have been allocated.

Note: To use the WlmAdmin utility, either you must be the person who started the license server, or you must have administrator privileges.

1. To start the utility from the Windows **Start** menu, select **OSG Floating License Manager > Administrator Utility**.
2. Expand the list of modules below the license server hostname.

The details presented in the dialog box indicate which client machine and username have checked out the licenses.



You can also use the WlmAdmin utility to obtain other licensing activity information, such as license servers detected and details on active licenses. For more information about how to use the WlmAdmin utility, see the *Sentinel System Administrator's Guide*. After the Sentinel software is installed, this manual is available from the Windows Start menu in **OSG Floating License Manager > System Administrator's Guide**.

Note: Not all functions described in the *Sentinel System Administrator's Guide* are supported by **CODE V**.

All license manager activity is recorded in the file usage.log, which is located in C:\Windows\SYSWOW64.

Reserving Availability of CODE V Licenses Using Sentinel License Manager

By default, **CODE V** licenses are available to anyone on your server on a first-come, first-served basis. Therefore, you can use **CODE V** immediately without using the Sentinel License Manager. However, if and when you want the access to these licenses more finely tuned for your work priorities, you can use Sentinel License Manager to reserve the number of licenses available to a group (using license *tokens*) and to allow or deny access to users who are members of a group.

Before using the Sentinel License Manager, consider how you want to organize your groups, as there are many ways to do so. Remembering the following points will help you to decide how to organize your groups:

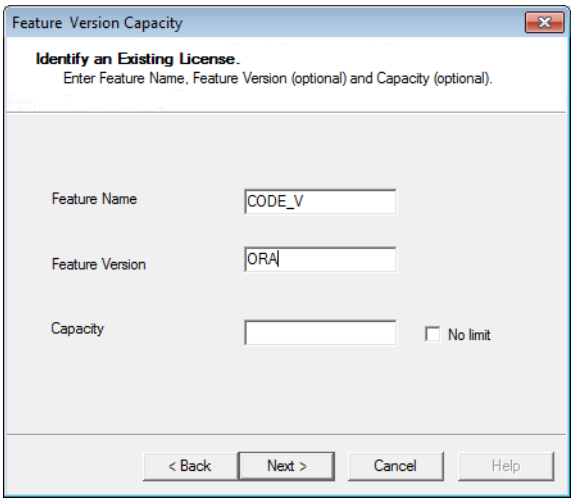
- Any license not specifically reserved can be used by anyone on your server.
- After you create a group, you can specify the status of individual members as *Included* (access allowed) or *Excluded* (access denied).
- A user should be assigned as a member of only one group.
- You can exclude all members of a group from using licenses by specifying 0 licenses for that group.
- If the total number of license tokens reserved exceeds the number of concurrent copies of **CODE V** for which you have licenses (as defined in your license file) then the license file number will be used.

For example:

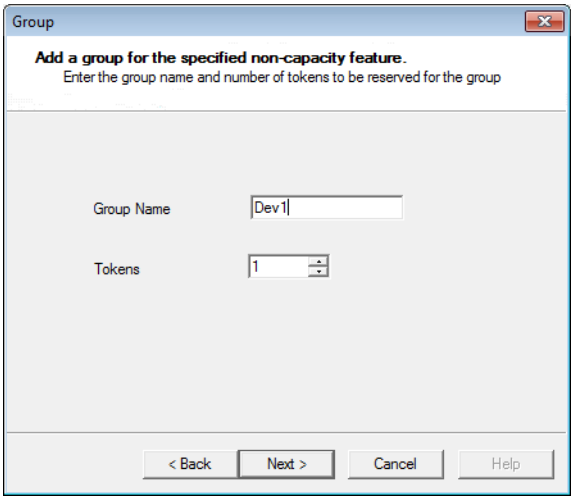
- To organize by department, enter each department in your organization as a separate group, assign the appropriate number of license tokens to each group, and designate each group member as Included or Excluded. You can change this designation on a regular basis as your work priorities change.
- To organize by priority, create one group for preferred users and one group for everyone else. In the preferred user group, designate all members as Included and assign as many licenses as you can allow. For the second group, enter everyone else in the company that may need the software and the remaining licenses (tokens) and designate which people are Included and which are Excluded. You can then change these Included and Excluded designations on a regular basis as the work load changes.

After you decide on an arrangement, you can use the Sentinel License Manager to implement it by setting up a *reservation file* as follows:

1. On the license manager server, start the license manager Administration utility from the Windows Start button, select **OSG Floating License Manager > Administrator Utility**.
2. From the menu at the top of the WlmAdmin window, choose **Edit > Reservation File**. to open the Wlsgrmgr window.
3. Choose **File > New** to set up a new reservation file. (To modify an existing reservation file, choose **File > Open** and then select the *lsreserv* file in the directory where License Manager is installed.)
4. Choose **Feature > Add**. The *Add License Reservation Wizard* opens. Click **Next** to continue. The *Feature Version* window opens.
5. For Feature Name, enter **CODE_V** (upper case CODE, underscore, upper case V).



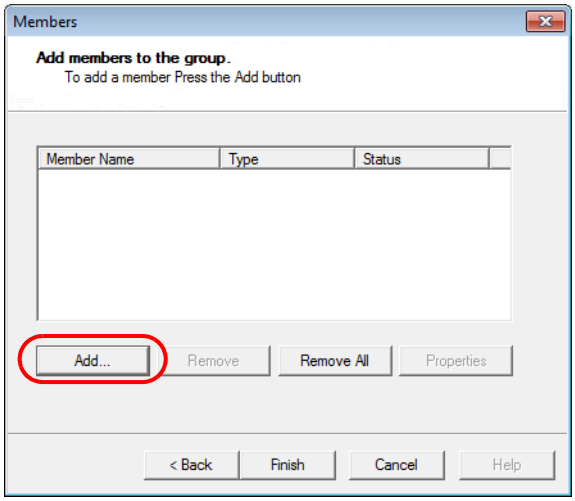
6. For Feature Version, enter **ORA** (upper case).
7. Click **Next** to open the *Group* window.
8. Follow these steps to establish a user group:
   a. Enter a name of your choosing that identifies the user group for whom you want to allow or deny access. The name cannot exceed 64 characters.



   b. In the *Tokens* field, enter the number of licenses to reserve for that group.
   c. Click **Next** to open the *Members* window.

9. Follow these steps to add members to the group. Add members who will be allowed access, as well as members who will be denied access.

   a. Click the **Add** button.



   b. In the **Name of Member** field, enter the member's network user name. The name cannot exceed 64 characters. (Note that for **CODE V**, members can be defined only by user name.)

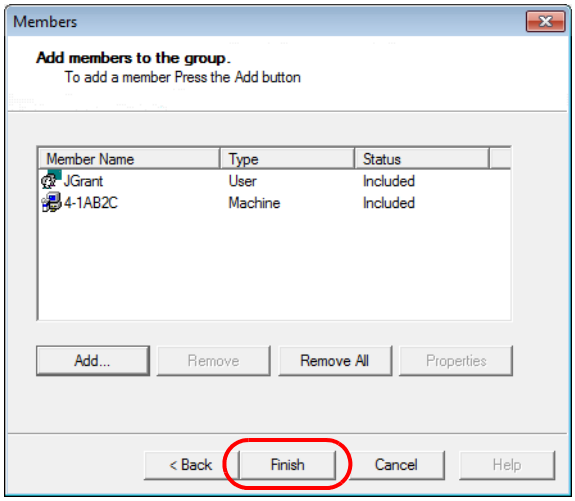
   c. Select **User**.

   d. Click **Included** for members who are allowed access and **Excluded** for members who are denied access.

   e. Click **OK.**

   f. Repeat the process to add each user in the group.

g. Click **Finish** on the **Members** window, to apply the changes and close the window.



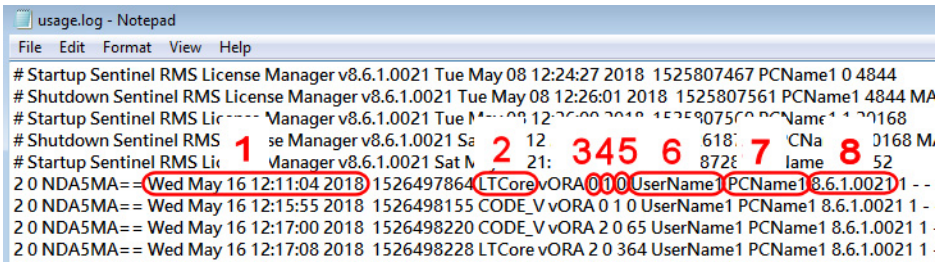
10. In the Wisgrmgr window, to add an additional:
    a. group and its members, select **Group** > **Add** and repeat steps 7, 8 and 9.
    b. member to an existing group, double click the group name, click the Members tab and repeat step 9.
11. When you are finished, select **File > Save As** and navigate to the directory where the license manager is installed.

    By default, license manager is installed in:

    C:\Program Files (x86)\Common Files\SafeNetSentinel\Sentinel RMS License Manager\WinNT
12. Keep the default file name, *lsreserv*, and then click Save. The License Manager references this file to determine which users have access to each feature.
13. Close the Wisgrmgr window and then close the WimAdmin window.
14. Restart the Sentinel RMS License Manager, as follows.
    a. Search for **Control** and then select **System Security**
    a. Select **Administrative Tools** and then **Services**.
    b. Locate and right-click the **Sentinel RMS License Manager** in the list of services and select the **Restart** option from the pop-up menu.

Logging Floating License Usage

Floating license usage is automatically recorded in the file usage.log. The following example shows how information is formated in this file.



As shown in the highlighted portions, the entries include:

1 - day, date, and time stamp

2 - the product or module

3 - a code that indicates whether the license was issued (0), denied (1), or released (2)

4 - the number of floating licenses in use after the current release or request.

5 - elapsed time the license was in use (in seconds). This value is 0 until the license is released.

6 - the user ID

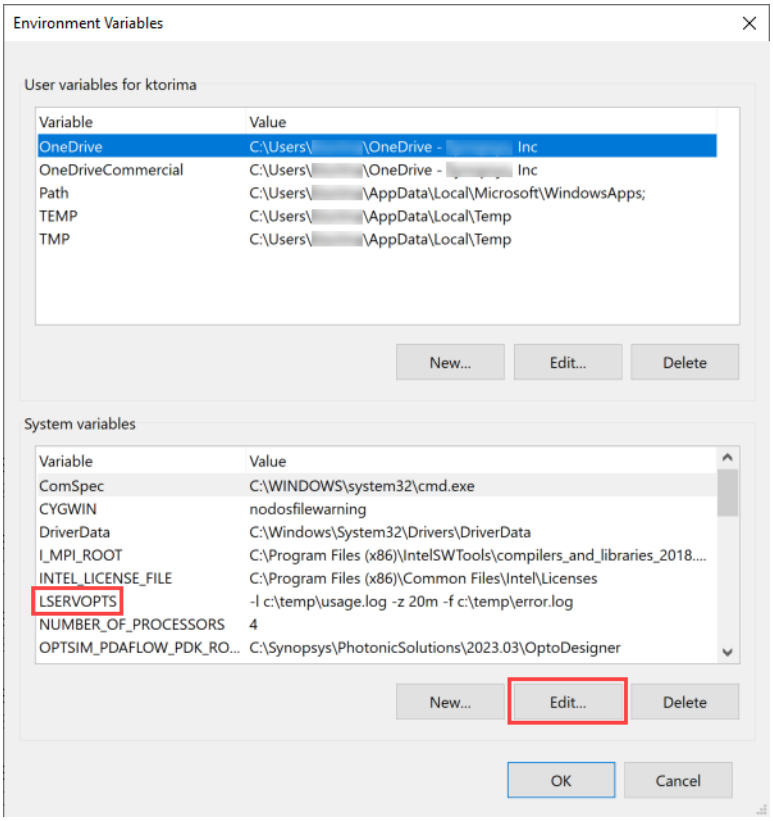
7 - the host name

8 - the version number for the floating license manager

By default, the usage.log file is located in the folder C:\Windows\SYSWOW64. You can change the location and name of the file, if desired, as described in the following steps.

1. In the Windows search box, type “edit environment” and select *Edit environment variables for your account* (or similar search result for your Windows version).

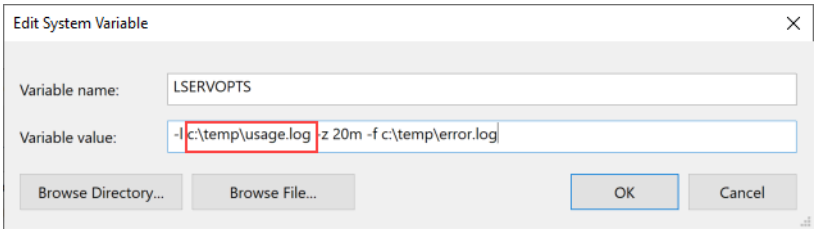
2. In the Environmental Variables dialog box, select **LSERVOPTS** and click **Edit**.



By default, the value for LSERVOPTS is

```
-l usage.log -z 20m -f error.log
```

3. In the Edit System Variable dialog box, change the path and/or file name by replacing the string **`usage.log`** with the desired path and file name. In the following example, the new path for the file is **`C:\temp\usage.log`**.

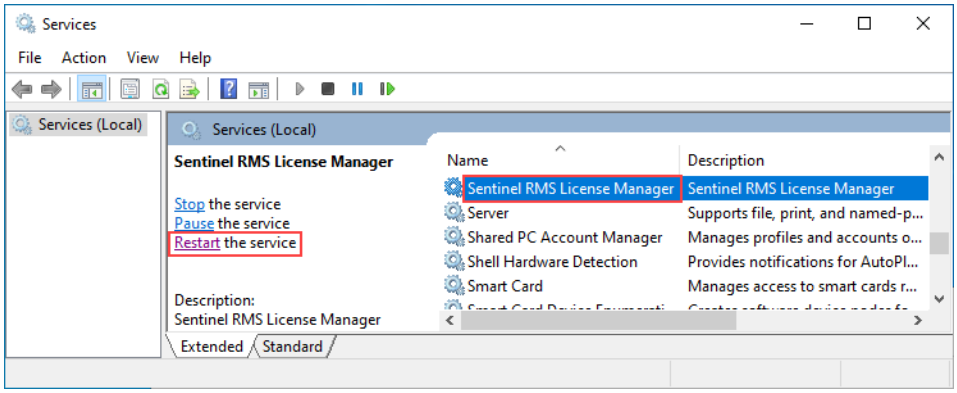


4. Restart the license manager in the services list, as described in the following steps.

   The change takes effect after the license manager is restarted.

   a. In the Windows search box, type “services” and select the *Services* app.

   b. In the Services dialog box, locate and select the **Sentinel RMS License Manager** and then click **Restart the Service**.



For additional information about the usage log, See the *Sentinel System Administrator’s Guide*. After the license manager software is installed, this manual is available by selecting the Windows **Start** menu and selecting **Programs** > **OSG Floating License Manager** > **System Administrator’s Guide**.

Chapter 4 Installing CODE V with an SCL Nodelocked License

With Synopsys Common Licensing, you can run CODE V using either a *nodelocked* license or a *network* license. This chapter describes how to install the product to run using a nodelocked license, which allows you to run CODE V only on the computer on which it is installed. With this license, you can open up to eight concurrent CODE V sessions.

What You Need for Nodelocked License Installation

You will need the following items to install CODE V with a nodelocked-license:

- **CODE V** – You need a copy of CODE V installation file (either downloaded from the Synopsys SolvNetPlus website or received from your local distributor) or on a CODE V DVD (that you ordered and received from SolvNetPlus or from your local distributor).
- **License Key** – a license key that corresponds to your CODE V license and to a Host ID. The Host ID may be associated with your computer's hardware or with a USB dongle attached to a port on your computer.

For details, see Appendix A, "Using SolvNetPlus to Obtain CODE V Software and Licenses" on page 51.

Note: For customers working with distributors, please contact your local CODE V software distributor to obtain your software and license. See the Synopsys Optical Solutions Group Global Contacts page for contact information.

You may also need a USB dongle acquired by you or your site's license administrator from your local Synopsys Sales Representative. Your CODE V or IT Administrator should inform you if one is required. If you are the CODE V or IT Administrator, contact your CODE V representative. If you control your licensing with this method, you also must have a:

- USB dongle (the dongle comes with a label that shows its Host ID)
- USB2.0 (or higher) port (for Type A) into which you can plug the dongle

Installing CODE V with a Nodelocked License

These instructions assume that you have already have the items described in *What You Need for Nodelocked License Installation* on page 39. If your site uses a dongle, it should be plugged into your machine.

1. Log on to your computer as Administrator.
2. Navigate to the folder that contains the CODE V installation package.
3. Double-click the file **CODEV*version*.exe**.

   where *version* is the version number for the release.

   – If a User Account Control dialog box is displayed with the message *Do you want to allow this app to make changes to your PC?*, click **Yes** to continue.

   The installation files are extracted, and then the Welcome to the InstallShield Wizard page is displayed.
4. Click **Next** to continue to the License Agreement page.
5. If you accept the agreement, click **Yes** to continue to the Choose Destination Location page.
6. To accept the default location for the program, click **Next**.

   The Choose Working Folder page is displayed. The working folder is used to store your user files.
7. To accept the default location for the working folder, click **Next**.

   – If you previously installed CODE V you will be prompted to confirm whether to use the existing directory. Click **Yes** to accept and continue to the License Installation Options page.

   – If this is a new installation, you will continue to the License Installation Options page.
8. Click the check box next to **My license is for Synopsys Common Licensing** and click **Next**.
9. Select **Nodelocked** and click **Next** to continue to the License Key File Setup page.
10. Do one of the following:

    – If you already have a license key for this product, enter the full path and file name or click the **Browse** button, navigate to the file, select it and click **Open**. Click **Next** to continue.

    – If you do not yet have a license key, you can install it later. Leave the location blank and click **Next**. When you're ready to get your license key file, see *Obtaining the Host ID for an SCL Nodelocked License* on page 41 and *Installing a License Key File for an SCL Nodelocked License* on page 42.
11. If the Preparing to Install page is displayed, select **Do not close the applications** and then click **Next** to continue.
12. In the Start Copying Files page, confirm your information.

    – If the information is correct, click **Next**.

    – If a correction is needed, use the **Back** and **Next** buttons to navigate between pages. Make your corrections and then return to this page before clicking **Next**.
13. When the installation is complete, click **Finish** to close the wizard.

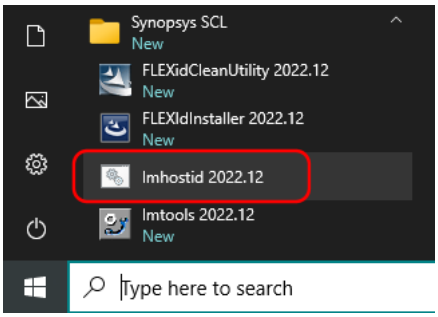
Obtaining the Host ID for an SCL Nodelocked License

A license key is associated with a unique value on your device called a *Host ID*, and it works for only one computer or USB dongle. Because of this, you need to know the Host ID for your computer or dongle before you can retrieve a license key file.

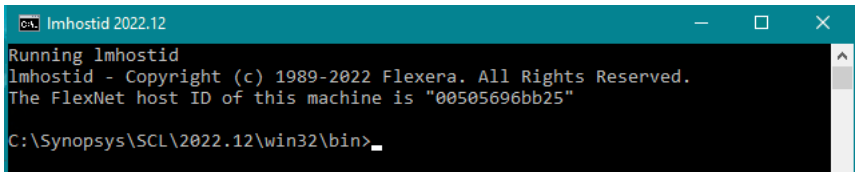
Obtaining the Host ID for a Computer

If you are not using a dongle, you can use the lmhostid utility installed with Synopsys Common Licensing to obtain the Host ID for your computer. Follow these steps to run the lmhostid utility.

1. Click the Windows Start button and select **Synopsys SCL > lmhostid 2022.12**.



The Host ID is displayed in a command window, as shown in the following example.



2. Copy the Host ID to retrieve your license key on the Synopsys SolvNetPlus website. See *Retrieving License Keys* on page 58 for instructions.

After you retrieve your license key, go to *Installing a License Key File for an SCL Nodelocked License* on page 42.

Obtaining the Host ID for a Dongle

If you are using a dongle for Synopsys Common Licensing, follow these steps to obtain the Host ID for the dongle.

1. Insert the USB dongle in an active USB port. A light glows at the end of the dongle when it's inserted correctly in an active USB port.
2. From a command prompt, navigate to C:\Synopsys\SCL\2022.12\win32\bin.
3. Enter the command `lmhostid -flexid`

   The following example shows a single Host ID, but the command may return multiple values (depending on your machine). You can use any single value.

```
C:\Synopsys\SCL\2022.12\win32\bin>lmhostid -flexid
lmhostid - Copyright (c) 1989-2022 Flexera. All Rights Reserved.
The FlexNet host ID of this machine is "FLEXID=10-3abc4cba"
```

4. Copy the Host ID to retrieve your license key on the Synopsys SolvNetPlus website. See *Retrieving License Keys* on page 58 for instructions.

After you retrieve your license key, go to *Installing a License Key File for an SCL Nodelocked License* on page 42.

Installing a License Key File for an SCL Nodelocked License

If you didn't have or specify the location for your license key file when you installed CODE V, you can follow these steps to install it.

This procedure assumes that you have already obtained a valid license key file from the SolvNetPlus SmartKeys web page. If you have not done so, see *Retrieving License Keys* on page 58 for instructions.

Follow these steps to install your license key file.

1. If you are using a dongle for Synopsys Common Licensing, insert the USB dongle in an active USB port. A light glows at the end of the dongle when it's inserted correctly in an active USB port.
2. Start the wizard to configure licensing in either of the following ways:
   - Click the Windows Start button and select **CODE V 2024.03 > Configure Licensing (CV2024.03)**.
   - Start CODE V. When the License Error dialog box is displayed, click the **Configure Licensing** button.

   The License Type Setup screen is displayed, showing the type of license specified for your computer.
3. Click **Next**.

   The License Key File Setup screen is displayed.
4. Enter the full path and file name or click the **Browse** button, navigate to the file, and select it the Windows Open dialog box.
5. Click **Next** on the License Key File Setup screen.

   The SCL Installer Setup screen is displayed.
6. Leave the input field blank and click **Next** to accept the current version.

   When the progress screen closes, the license key file is installed and ready to use.

Modifying License Options for Synopsys Common Licensing Nodelocked Licenses

Use the Configure Licensing tool to update your SCL license information. You can use it to switch between SCL license types. For Nodelocked and Network Server license types, you can change the license key files. For the Network Client license type, you can update the information to communicate with Network Servers. Follow these steps to change the SCL license information.

1. Click the Windows Start button and select **CODE V 2024.03 > Configure Licensing (CV2024.03)**.

   The License Type Setup screen is displayed.

2. Select the option you want and click **Next**.

3. Based on your selection, do one of the following:

   – For *Nodelocked* or *Network (Server Installation)*, enter or browse to the license key file and click **Next**. On the SCL Installer Setup screen, leave the input field blank an click **Next** to accept the current version.

   – For *Network (Client Installation)*, enter the name of the server on the Network Client Setup screen and click **Next**.

The licensing option is updated, and the setup wizard is closed.

Chapter 5 Installing and Managing an SCL Network License

With Synopsys Common Licensing, you can run CODE V using either a *nodelocked* license or a *network* license. This chapter describes how to install the product to run using a network license on a network server, which allows you to run CODE V on any computer on the same network and describes how to install CODE V on one or more client computers.

Each license server makes available a number of CODE V product module licenses with each license permitting eight concurrent sessions of CODE V to be run. The total number of licenses are determined by your company's license agreement. The total number of sessions may be shared across client computers if enough licenses are available.

For example, if a license server has two licenses available and each license allows up to eight concurrent CODE V sessions, then one client computer could use eight sessions from the first license and eight sessions from the second license. If that client computer instead used only three sessions from the second license, then the remaining five sessions would still be available and could be used by another client computer.

Synopsys Optical Solutions software products cannot share licenses with each other; they share only the license server software. A single license server can be used to serve all Synopsys Optical Solutions products that support SCL Licensing. If you would like to consolidate your license serving needs, contact your local Synopsys Sales Representative for guidance on procuring licenses.

Note: Installing a network license requires system-administration-level training and should be performed by someone who is familiar with your network structure. To perform this installation, you must be logged on as administrator.

The steps for installing CODE V to run with a Synopsys Common Licensing network license are:

1. *Selecting a License Server* on page 46
2. *Installing Synopsys Common Licensing on a License Server* on page 46
3. *Obtaining the Host ID for an SCL Network License* on page 47
4. *Installing a License Key for an SCL License Server* on page 48
5. *Installing CODE V on Client Machines* on page 49
6. *Optional: Modifying License Options for Synopsys Common Licensing Network Licenses* on page 50
7. *Optional: Managing Network Licenses* on page 50

Selecting a License Server

Before installing any software, you must identify the computer that will act as the license server. This must be a computer connected to a network through which it can communicate with one or more client computers.

Note: By default, Synopsys Common Licensing communicates via port 27020, the *server port*, as well as 27021, the *vendor daemon port*. If you will be running CODE V across different subnets, you will have to configure your routers or firewalls to allow two-way communication across your designated port.

When specifying the server name for a network client, specify the port and the server name or IP address. For example, `27020@MyServer` or `27020@123.456.78.90`.

You can run Synopsys Common Licensing server on the following operating systems: Windows 10, Windows 11, Windows Server 2016, and Windows Server 2019.

System requirements for a Synopsys Common Licensing server are available here: https://www.synopsys.com/support/licensing-installation-computeplatforms/licensing/scl-supported-os.html.

Installing Synopsys Common Licensing on a License Server

The Synopsys Common Licensing installation software is included in the CODE V installer. Follow these steps to install Synopsys Common Licensing on the computer you have designated as the license server.

1. Log on to your computer as Administrator.
2. Navigate to the folder that contains the CODE V installation package.
3. Double-click the file **CODEV*version*.exe**.

   where *version* is the version number for the release.

   – If a User Account Control dialog box is displayed with the message *Do you want to allow this app to make changes to your PC?*, click **Yes** to continue.

   The installation files are extracted, and then the Welcome to the InstallShield Wizard page is displayed.
4. Click **Next** to continue to the License Agreement page.
5. If you accept the agreement, click **Yes** to continue to the Choose Destination Location page.
6. To accept the default location for the program, click **Next**.

   The Choose Working Folder page is displayed. The working folder is used to store your user files.
7. To accept the default location for the working folder, click **Next**.

   – If you previously installed CODE V you will be prompted to confirm whether to use the existing directory. Click **Yes** to accept and continue to the License Installation Options page.

   – If this is a new installation, you will continue to the License Installation Options page.
8. Click the check box next to *My license is for Synopsys Common Licensing* and click **Next**.

9. Select *Network (Server Installation)* and click Next to continue to the License Key File Setup screen.
10. Do one of the following:
    - If you already have a license key for this product, enter the full path and file name or click the **Browse** button, navigate to the file and select it and click **Open**. Click **Next** to continue.
    - If you do not yet have a license key, you can install it later. Leave the location blank and click **Next**. When you're ready to get your license key, see *Obtaining the Host ID for an SCL Network License* on page 47 and *Installing a License Key for an SCL License Server* on page 48.
11. If the Preparing to Install page is displayed, select Do not close the applications and then click **Next** to continue.
12. In the Start Copying Files page, confirm your information.
    - If the information is correct, click **Next**.
    - If a correction is needed, use the **Back** and **Next** buttons to navigate between pages. Make your corrections and then return to this page before clicking **Next**.
13. When the installation is complete, click **Finish** to close the wizard.

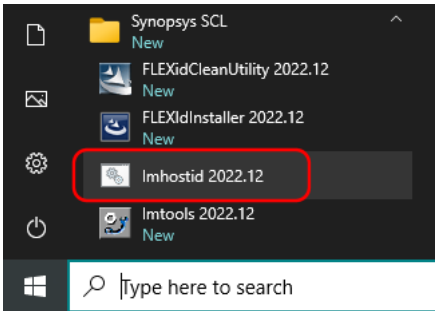
Obtaining the Host ID for an SCL Network License

A license key is associated with a unique value on your device called a *Host ID*, and it works for only one computer or USB dongle. Because of this, you need to know the Host ID for your computer or dongle before you can retrieve a license key file.

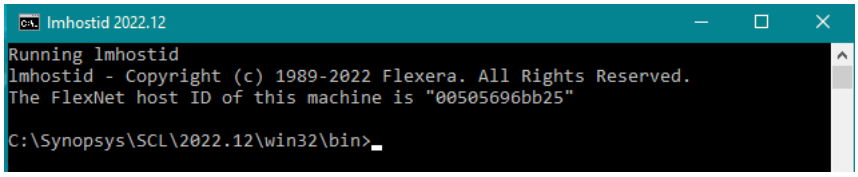
Obtaining the Host ID for a Computer

If you are not using a dongle, you can use the lmhostid utility installed with Synopsys Common Licensing to obtain the Host ID for your computer. Follow these steps to run the lmhostid utility.

1. Click the Windows Start button and select **Synopsys SCL > lmhostid 2022.12**.



The Host ID is displayed in a command window, as shown in the following example.



2. Copy the Host ID to retrieve your license key on the Synopsys SolvNetPlus website. See *Retrieving License Keys* on page 58 for instructions.

After you retrieve your license key, go to *Installing a License Key for an SCL License Server* on page 48.

Obtaining the Host ID for a Dongle

If you are using a dongle for Synopsys Common Licensing, follow these steps to obtain the Host ID for the dongle.

1. Insert the USB dongle in an active USB port. A light glows at the end of the dongle when it's inserted correctly in an active USB port.
2. From a command prompt, navigate to C:\Synopsys\SCL\2022.12\win32\bin.
3. Enter the command `lmhostid -flexid`

   The following example shows a single Host ID, but the command may return multiple values (depending on your machine). You can use any single value.

```
C:\Synopsys\SCL\2022.12\win32\bin>lmhostid -flexid
lmhostid - Copyright (c) 1989-2022 Flexera. All Rights Reserved.
The FlexNet host ID of this machine is "FLEXID=10-3abc4cba"
```

4. Copy the Host ID to retrieve your license key on the Synopsys SolvNetPlus website. See *Retrieving License Keys* on page 58 for instructions.

After you retrieve your license key, go to *Installing a License Key for an SCL License Server* on page 48.

Installing a License Key for an SCL License Server

If you didn't have or specify the location for your license key file when you installed CODE V, you can follow these steps to install it.

This procedure assumes that you have already obtained a valid license key file from the SolvNetPlus SmartKeys web page. If you have not done so, see *Retrieving License Keys* on page 58 for instructions.

Follow these steps to install your license key file.

1. If you are using a dongle for Synopsys Common Licensing, insert the USB dongle in an active USB port. A light glows at the end of the dongle when it's inserted correctly in an active USB port.
2. Start the wizard to configure licensing in either of the following ways:
   - Click the Windows Start button and select **CODE V 2024.03 > Configure Licensing (CV2024.03)**.
   - Start CODE V. When the License Error dialog box is displayed, click the **Configure Licensing** button.

   The License Type Setup screen is displayed, showing the type of license specified for your computer.
3. Click **Next**.

   The License Key File Setup screen is displayed.

4. Enter the full path and file name or click the **Browse** button, navigate to the file, and select it the Windows Open dialog box.
5. Click **Next** on the License Key File Setup screen.

   The SCL Installer Setup screen is displayed.
6. Leave the input field blank and click **Next** to accept the current version.

   When the progress screen closes, the license key file is installed and ready to use.

Installing CODE V on Client Machines

CODE V must be installed on each client machine where it will be used. During the installation, you select Network (Client) as the license type and then specify the name of the server, which is the computer on which the license manager is installed.

With this license type, the licenses are installed and managed by an Synopsys Common Licensing server. You need the Synopsys Common Licensing server host name and the port used by your organization. This should be provided by your CODE V or IT administrator.

These instructions assume that you have already downloaded CODE V from the Synopsys SolvNetPlus website via electronic software transfer (EST) or that you ordered and received a CODE V DVD. If you have not done so, see *Using SolvNetPlus to Obtain CODE V Software and Licenses* on page 51.

1. Log on to your computer as Administrator.
2. Navigate to the folder that contains the CODE V installation package.
3. Double-click the file **CODEV*version*.exe**.

   where *version* is the version number for the release.

   – If a User Account Control dialog box is displayed with the message *Do you want to allow this app to make changes to your PC?*, click **Yes** to continue.

   The installation files are extracted, and then the Welcome to the InstallShield Wizard page is displayed.
4. Click **Next** to continue to the License Agreement page.
5. If you accept the agreement, click **Yes** to continue to the Choose Destination Location page.
6. To accept the default location for the program, click **Next**.

   The Choose Working Folder page is displayed. The working folder is used to store your user files.
7. To accept the default location for the working folder, click **Next**.

   – If you previously installed CODE V you will be prompted to confirm whether to use the existing directory. Click **Yes** to accept and continue to the License Installation Options page.

   – If this is a new installation, you will continue to the License Installation Options page.
8. Click the box next to *My license is for Synopsys Common Licensing* and click **Next**.
9. Select the Network (Client Installation) option.
10. On the Network Client Setup screen, enter the name of the port and the computer on which the Synopsys Common Licensing Network (Server Installation) software is installed. For example, `27020@MyServer` where `27020` is the port and `MyServer` is the server name.

If you want to enter more than one server name, separate the names with a semicolon. For example, `27020@MyServer1;27020@MyServer2` where `MyServer1` and `MyServer2` are the two servers used. Synopsys Common Licensing checks the servers in the order listed.

When the progress screen closes, the Synopsys Common Licensing software installation is complete.

11. In the Start Copying Files page, confirm your information.
    - If the information is correct, click **Next**.
    - If a correction is needed, use the **Back** and **Next** buttons to navigate between pages. Make your corrections and then return to this page before clicking **Next**.
12. When the installation is complete, click **Finish** to close the wizard.

Modifying License Options for Synopsys Common Licensing Network Licenses

Use the Configure Licensing tool to update your SCL license information. You can use it to switch between SCL license types. For Nodelocked and Network Server license types, you can change the license key files. For the Network Client license type, you can update the information to communicate with Network Servers. Follow these steps to change the SCL license information.

1. Click the Windows Start button and select **CODE V 2024.03 > Configure Licensing (CV2024.03)**.

   The License Type Setup screen is displayed.
2. Select the option you want and click **Next**.
3. Based on your selection, do one of the following:
   - For *Nodelocked* or *Network (Server Installation)*, enter or browse to the license key file and click **Next**. On the SCL Installer Setup screen, leave the input field blank an click **Next** to accept the current version.
   - For *Network (Client Installation)*, enter the name of the server on the Network Client Setup screen and click **Next**.

The licensing option is updated, and the setup wizard is closed.

Managing Network Licenses

In general, there is nothing that you need to do to manage the network licenses. As long as the network license server machine is operational, connected to the network, and is running the Synopsys Common Licensing (SCL) service, licenses are available to clients.

Synopsys Common Licensing provides tools that enable you to fine tune how your licenses and sessions are distributed using Options files. For information about using Options Files, see “Managing the Options File” in the *FlexNet Publisher License Administration Guide*, available on SolvNetPlus.

Appendix A Using SolvNetPlus to Obtain CODE V Software and Licenses

Software and license keys for CODE V are available for download from the Synopsys SolvNetPlus website. This appendix describes how to use the website to download this software products and the license keys required to use it.

Note: For customers working with distributors, please contact your local CODE V software distributor to obtain your software and license. See the Synopsys Optical Solutions Group Global Contacts page for contact information.

Special terms used in these instructions are explained in *Glossary* on page 67.

The process is described in the following procedures.

1. *Signing Up for a SolvNetPlus Account* on page 52
2. *Downloading CODE V Software from SolvNetPlus* on page 53

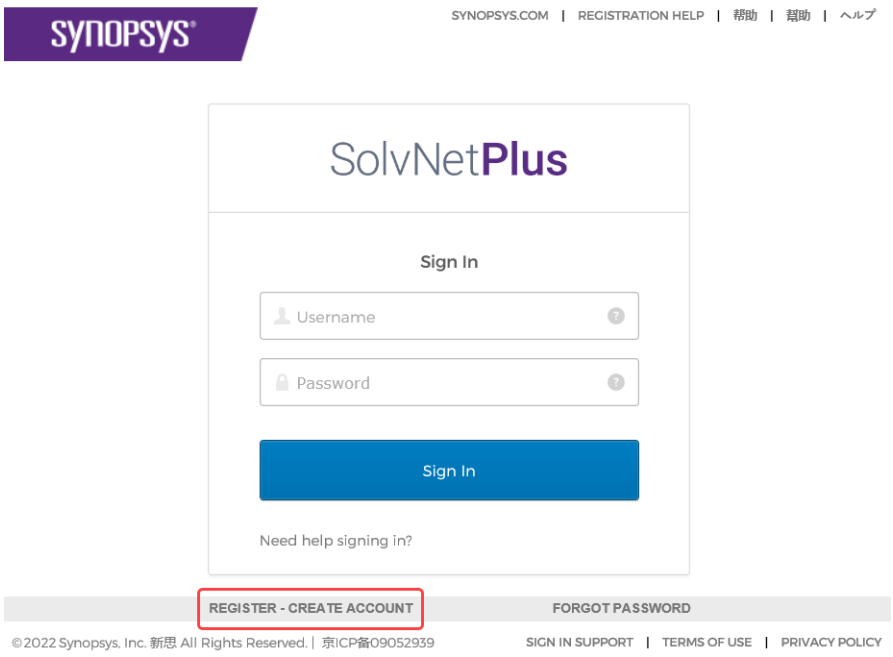
   or

   Ordering Media (CDs/DVDs) on page 56
3. *Installing CODE V* on page 57
4. *Obtaining the Host ID* on page 58
5. *Retrieving License Keys* on page 58

Signing Up for a SolvNetPlus Account

Before you can download CODE V software and license keys, you must sign up for a Synopsys SolvNetPlus account. If you already have a SolvNetPlus account, you can skip to *Downloading CODE V Software from SolvNetPlus* on page 53.

1. Go to https://solvnetplus.synopsys.com and click **REGISTER - CREATE ACCOUNT**.



2. Follow the instructions for self registration.

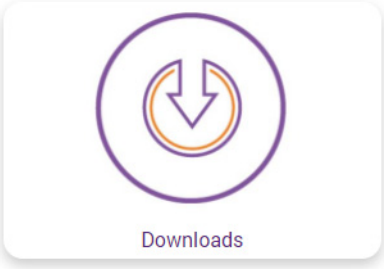
   SolvNetPlus will send a verification code to the email address you specified. You must provide this code to continue with registration.

   During the registration process, you will need to enter your company's Site ID. If you do not know your company's Site ID, please contact solvnetplusfeedback@synopsys.com to request it. Be sure to include your company name and address in the email request.

Downloading CODE V Software from SolvNetPlus

Follow these steps to download the CODE V product. If you unable to download software, you can order a CD or DVD instead. See *Ordering Media (CDs/DVDs)* on page 56 for instructions.

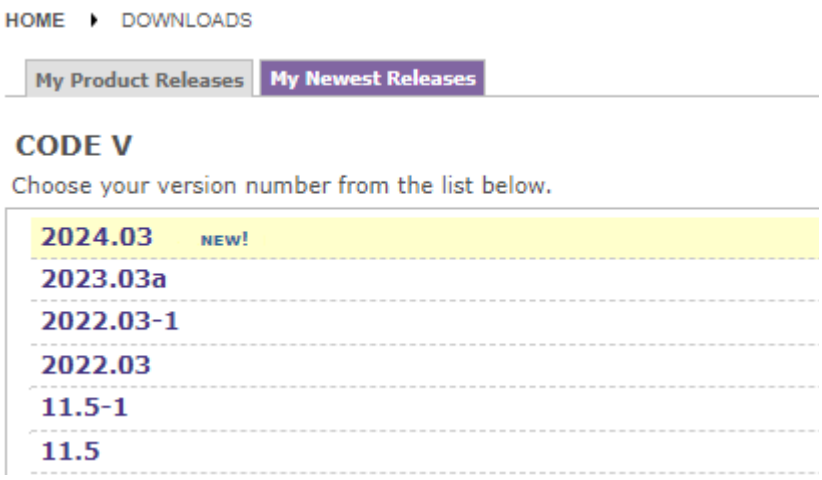
1. Go to https://solvnetplus.synopsys.com and enter your User Name and Password to sign in.
2. In SolvNetPlus, click **Downloads**.



All Synopsys products currently licensed at your company will be listed.

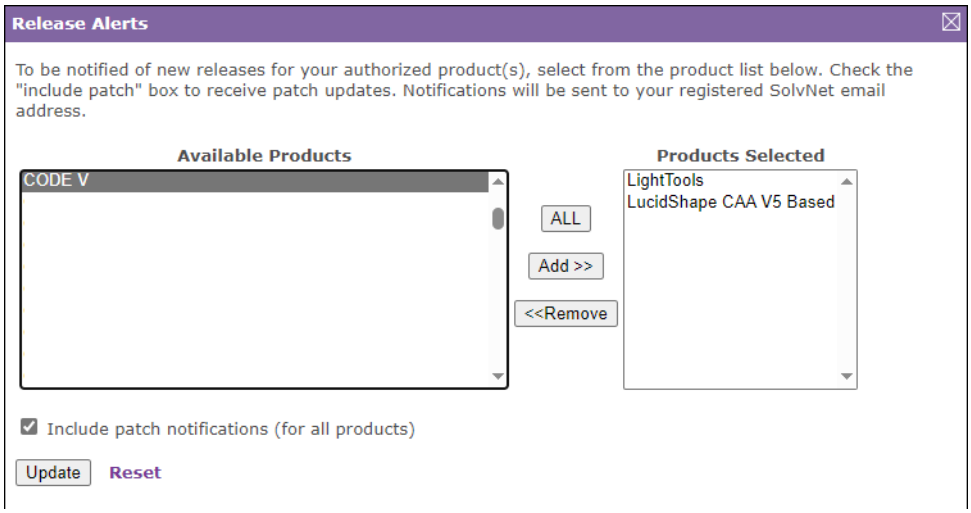
3. Select the product that you want to download.

4. Select the version you would like to download.



The **Download Details** page is displayed. From this page you may download the latest Release Notes, Installation Guide, and the installation software package. If you have not signed up to receive release alerts, it is recommended that you do so.

5. In **Download Details** under **Release Alerts**, click the **Sign up** link to display **Release Alerts** options that allow you to subscribe to Release Notification emails from SolvNetPlus. These emails let you know when a new version of CODE V is available for download.



   a. Click the product name for which you would like to receive notifications or click **ALL** to receive notifications for all products in the list.

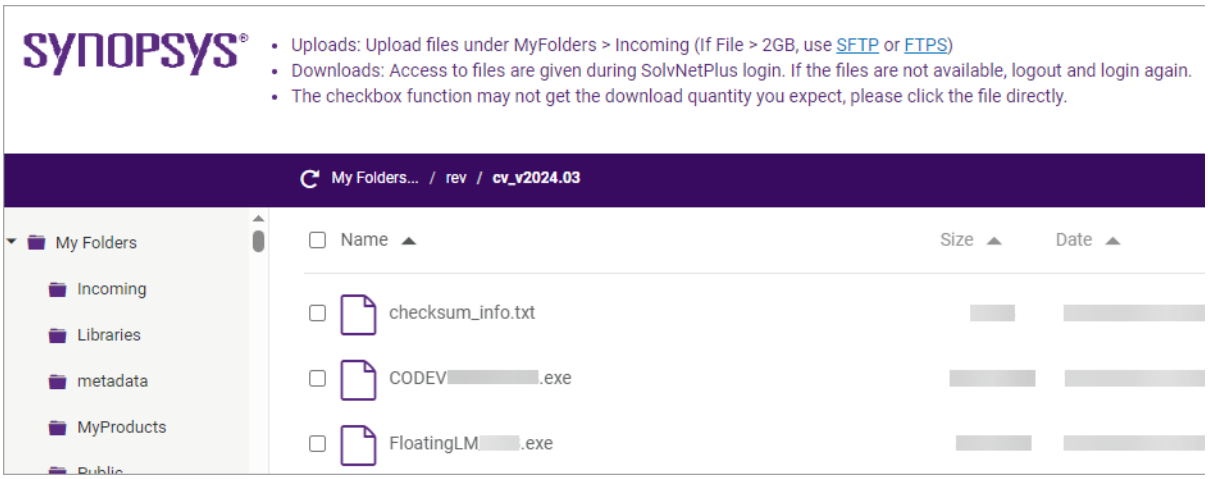
   b. Click the **Add** button.

   c. Click the **Include patch notifications** check box. This allows you to receive notifications of CODE V service releases.

   d. Click the **Update** button.

   You are returned to the **Download Details** page.

6. On the **Downloads Details** page, click **Download Here** to download from your browser or read and follow the instructions for the other download choices.
7. On the Notice page, read the notice and then click **Agree and Sign In** to continue.
8. From the list of available files, click the name of the file and then use your browser to open or save the file.



The following files are available for CODE V. Based on the version of CODE V that you select in step 4, the actual file names displayed may be different but will have similar names.

- checksum_info.txt is a file used for internal purposes.
- CODEV*version*.exe (where *version* is the version number for the release) is the installation file for CODE V.
- FloatingLM*version*.exe is for customers using CODE V Legacy licensing with a floating license. Only the system administrator who will set up a floating license server needs to download this file. See *Installing CODE V with a Floating License (Legacy Licensing)* on page 17 for installation instructions.

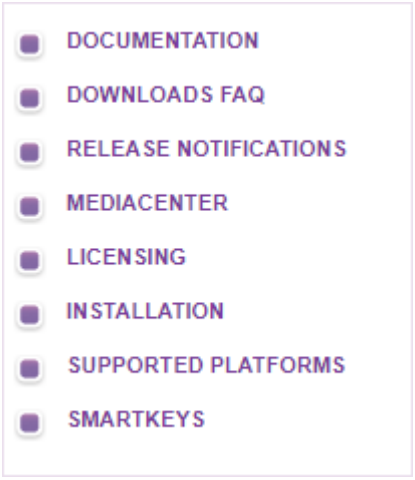
Next steps:

- If you need to obtain a license key, see *Retrieving License Keys* on page 58.
- If you already have a license key, see one of the following procedures, based on the licensing you are using:
  - *Installing CODE V with Legacy Licensing* on page 11
  - *Installing CODE V with a Floating License (Legacy Licensing)* on page 17.
  - *Installing CODE V with a Nodelocked License* on page 40
  - *Installing and Managing an SCL Network License* on page 45

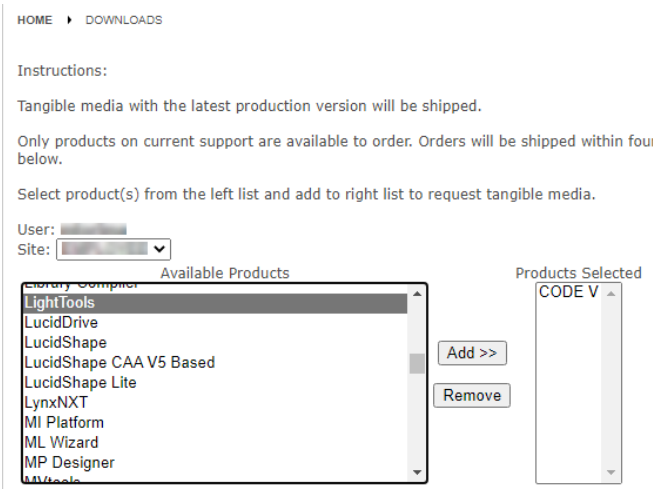
Ordering Media (CDs/DVDs)

If you unable to download software and would like to order media (CD or DVD) instead, you can do this directly on the Synopsys SolvNetPlus website. Follow these steps to order media.

1. Go to https://solvnetplus.synopsys.com and enter your User Name and Password to sign in.
2. Click the **Downloads** tile.
3. In the lower-right area of the page, click the **MediaCenter** link.

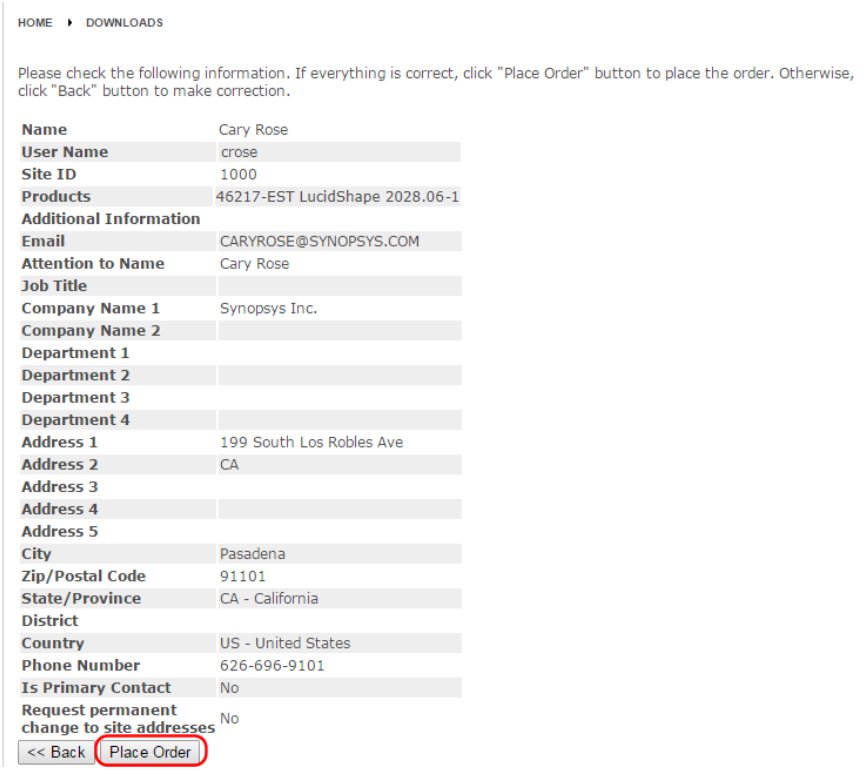


4. On the **Media Center** page, select the product (e.g., CODE V, LightTools, etc.) and click the **Add** button.



5. Complete the Shipping Address information and click **Continue**.

6. Review the shipping request, shown in the following figure, and click **Place Order**.


HOME ▸ DOWNLOADS

Please check the following information. If everything is correct, click "Place Order" button to place the order. Otherwise, click "Back" button to make correction.

Name	Cary Rose
User Name	crose
Site ID	1000
Products	46217-EST LucidShape 2028.06-1
Additional Information	
Email	CARYROSE@SYNOPSYS.COM
Attention to Name	Cary Rose
Job Title	
Company Name 1	Synopsys Inc.
Company Name 2	
Department 1	
Department 2	
Department 3	
Department 4	
Address 1	199 South Los Robles Ave
Address 2	CA
Address 3	
Address 4	
Address 5	
City	Pasadena
Zip/Postal Code	91101
State/Province	CA - California
District	
Country	US - United States
Phone Number	626-696-9101
Is Primary Contact	No
Request permanent change to site addresses	No

<< Back | Place Order

Installing CODE V

Instructions for installing CODE V software and license keys are provided in the following chapters:

- *Getting Started* on page 5 - Explains what you need for installation, lists CODE V system and licensing requirements and tells you how to contact CODE V Support.
- *Installing CODE V with Legacy Licensing* on page 11 - With a fixed license, you install the product, the license dongle, and the license key on the computer where you want to run CODE V.
- *Installing CODE V with a Floating License (Legacy Licensing)* on page 17 - With a floating license, you install the license dongle and license key on a network server and the product on one or more client machines where you want run CODE V; you also install the OSG Floating License Manager on the network server to manage the licenses.
- *Installing CODE V with a Nodelocked License* on page 40 - With a nodelocked license, you install the dongle (if you're using one), Synopsys Common Licensing software, CODE V product, and license key file on the computer where you want to run CODE V.
- *Installing and Managing an SCL Network License* on page 45 - With a network license, you install the dongle (if you're using one), Synopsys Common Licensing software, and license key file on a network server and then install the product on one or more client machines where you want run CODE V.

After you install the CODE V product, continue with *Obtaining the Host ID* on page 58.

Obtaining the Host ID

A license key is associated with a unique value on your device called a *Host ID*, and it works for only one computer or USB dongle. Because of this, you need to know the Host ID for your computer or dongle before you can retrieve a license key file. Based on the licensing you're using, see one the following procedures.

for CODE V Legacy Licensing:

- Fixed license - *Obtaining the Host ID for a License Dongle* on page 14
- Floating license - *Obtaining the Host ID for a License Dongle on the License Server* on page 26

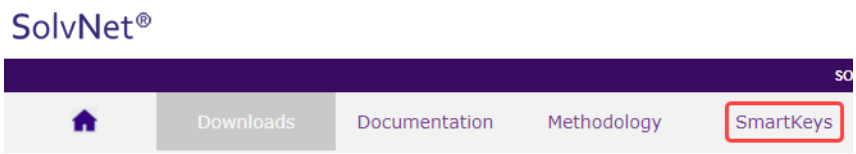
for Synopsys Common Licensing:

- Nodelocked license - *Obtaining the Host ID for an SCL Nodelocked License* on page 41
- Network (Server) license - *Obtaining the Host ID for an SCL Network License* on page 47

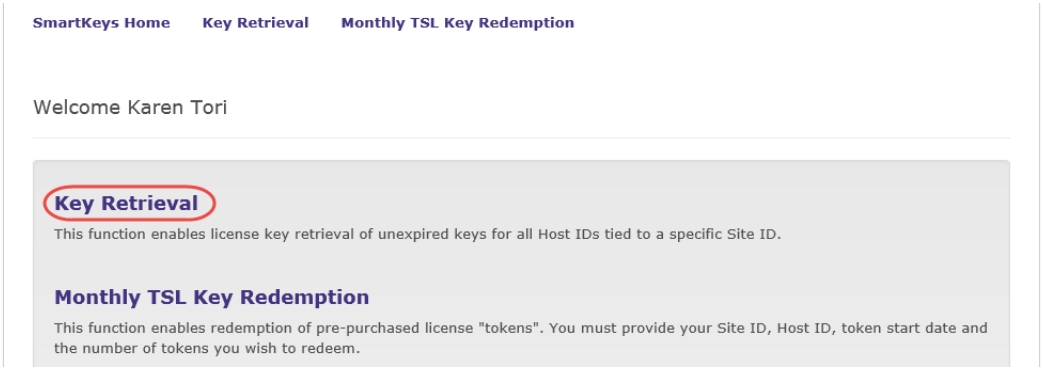
Retrieving License Keys

A license key is a file associated with your specific computer or USB dongle. The license key file contains licensing information that allows one or more computers to use Synopsys products. (The number of computers depends on your licensing agreement and licensing method employed.) You can obtain a license key using the SmartKeys web page on the Synopsys SolvNetPlus website. Follow these steps to obtain your license key.

1. On SolvNetPlus Home page, click the **Downloads** tile, and then click the **SmartKeys** tab.



2. On the SmartKeys Home page, click the **Key Retrieval** link.



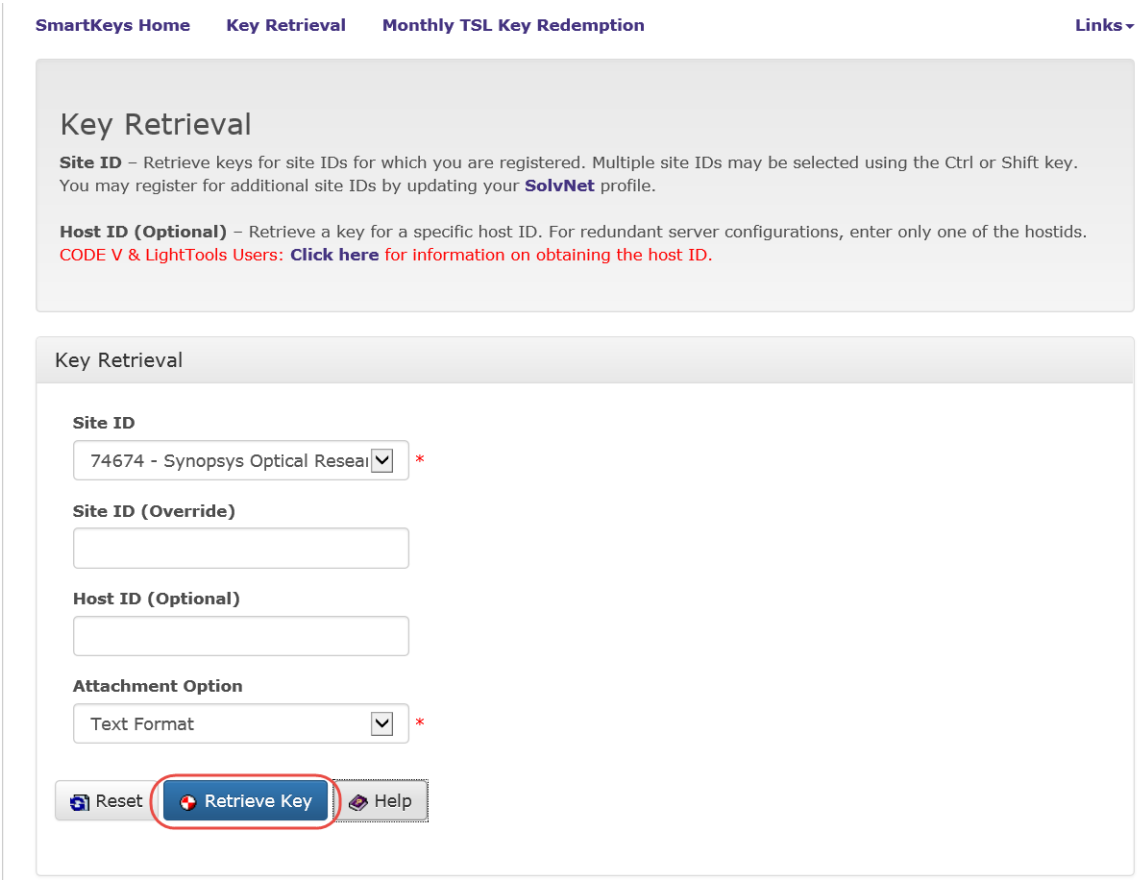
The SmartKeys Key Retrieval page is displayed.

You can retrieve a license key for a single host (your computer or USB dongle), or you can retrieve license keys for all Host IDs at your company.

3. To obtain a license key for a single host, enter the Host ID of your computer or CODE V USB dongle in the Host ID (Optional) field. If you do not know the Host ID value for your USB dongle, see *Obtaining the Host ID* on page 58.

   To obtain license keys for all products and all Host IDs at your company, leave the Host ID (Optional) field blank and go on to step 4.

4. Click **Retrieve Key**, shown in the following figure.



   Your CODE V license key will be delivered as a text file attached to an email from the SmartKeys system. If you did not enter a Host ID in step 3, you will receive a separate email with a single license key attached for each Host ID at your company. The email will include the Host ID for which the license key is valid.

5. Save the license key to a convenient location on your computer. You need to access this file to activate CODE V.

6. See one of the following procedures for instructions on installing the license key to activate your CODE V product.

   for CODE V *Legacy Licensing:*

   – Fixed license - *Installing a License Key File for a Fixed License* on page 15

   – Floating license - *Installing the License Key for a Floating License* on page 27

   for Synopsys Common Licensing:

   – Nodelocked license - *Installing a License Key File for an SCL Nodelocked License* on page 42

   – Network (Server) license - *Installing a License Key for an SCL License Server* on page 48

Appendix B Troubleshooting the CODE V Legacy Licensing Floating License Installation

If a security problem occurs when you use a CODE V Legacy Licensing floating license, a **License Manager Error** dialog box displays an error message. Below are a few common security errors with their causes and resolutions. If you are unable to correct the problem, please contact CODE V Support (see *Contacting Customer Support* on page 9).

Problem Adding License Keys to the License Server

Problem: **Sentinel: Error [19]: Failed to add license code…**

Cause: This general error message indicates that the license keys were not applied successfully in the license manager. This can occur if the file where the keys are being read is corrupted. However, this error an also occur if license keys that have already been successfully entered are entered a second time.

Solution: Verify that the license file contains license keys for the current version of CODE V being installed, and not for an earlier version (the version number is listed in the comments of the license file received from Synopsys). Also verify that the license file has not become corrupted. This might occur if the license file has been edited (that is, lines containing license keys are changed or become line wrapped incorrectly). When you install a license key, follow the procedure *Installing the License Key for a Floating License* on page 27.

Problems Starting CODE V

Problem: **Error #18b - No valid license code for version x.xx found.**

Cause: There has not been a valid license key entered for this version of CODE V.

Solution: See *Installing a License Key File for a Fixed License* on page 15 for instructions on installing license keys.

Problem: **Error #18b(13) - The Floating License manager is out of date.**

Cause: The CODE V version running on this computer is not supported by the Floating License Manager running on the license server specified in **File** > **License Manager** on the **Info tab** in the **License Server** box. (To support the latest client version, the administrator must update the Floating License Manager software on the license server to a version compatible with the latest CODE V software version running on its licensed clients. See "CODE V System Requirements" on page 5 for compatibility information. See "Installing the Floating License Manager on the License Server" on page 19 for installation instructions.)

Solution: Contact the license server administrator to find out when the license server will be updated. After the license server is updated, restart CODE V. If the license server administrator directs you to a new license server, see "Changing Floating License Options on Client Machines" on page 29.

Problem: **Error #0xC800100D - License code for version x.xx has expired.**

Cause: The license key for CODE V has expired, or the PC date is before the start date of the license.

Solution: Verify that the date on the computer is correct. Install the license key for this version of CODE V on the license manager machine according to the instructions in *Installing the License Key for a Floating License* on page 27. If a new license key is needed, contact CODE V Customer Service.

Problem: **Error #8001008 - License manager is not responding. Verify license manager host is available and license manager process is running.**

Cause: The Sentinel Floating License Manager program has been disabled.

Solution: Restart the license manager program. To do this: On the PC where the license server is installed, open the Control Panel (select **Start > Settings > Control Panel**), select **Administrative Tools** and then **Services**. Locate and right-click **Sentinel RMS License Manager** in the dialog box, and select the **Start** option on the pop-up menu.

Cause: The license manager machine is unavailable.

Solution: Verify that the license manager machine is available on the network.

Cause: The ORA_LSHOST environment variable is not set or is incorrectly set.

Solution: Check to make sure the license server name is correct by choosing the **File > License Manager** menu in CODE V. If the license server name is incorrect, modify it. See "Changing Floating License Options on Client Machines" on page 29 for information.

Problem: **An unexpected licensing error has occurred.**

Cause: An error has occurred with the license manager. The **License Manager Error** dialog box will contain more specific information about the problem, which is provided by the Sentinel Floating License Manager program. If you are still having difficulties identifying the problem, contact CODE V Support for guidance.

Appendix C Troubleshooting Synopsys Common Licensing

This appendix lists licensing errors that you might encounter with Synopsys Common Licensing and describes probable causes and resolutions. If you are unable to correct the problem, please contact CODE V Support (see *Contacting Customer Support* on page 9).

While the CODE V installer streamlines the product installation and the Synopsys Common Licensing installation, problems may occur. Use the following information to understand error messages and resolve issues.

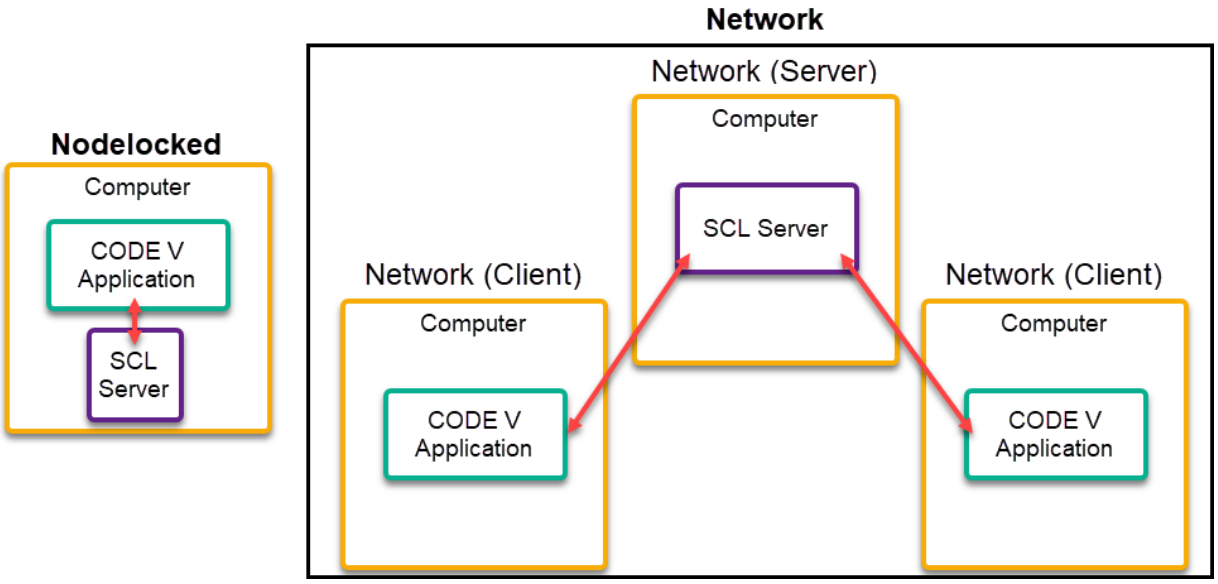
The CODE V installer includes the following components for Synopsys Common Licensing:

- Optical/Photonics Solutions Licensing components version 2023.12
- Synopsys Common Licensing version 2022.12

For Nodelocked and Network (Server Installation) installations, the CODE V installer configures the Synopsys Common Licensing server as the Flexlm Service 1 service.

Error messages may refer to the "flex log", which is the log file for Synopsys Common Licensing. The CODE V installer configures this log file to be named `flexlog.txt` in the `C:\Synopsys\licenses` directory.

Synopsys Common Licensing always includes a Synopsys Common Licensing server. Even when you have a nodelocked installation, there is an instance of the Synopsys Common Licensing server running on your system. Therefore, even when you are not using a networked license, you may have issues communicating with the Synopsys Common Licensing server.



There are no remaining licenses for the requested feature

Licensed number of users already reached.

A limited number of users can use this feature at the same time, and the limit has been reached.

If you are running multiple sessions concurrently, you may have reached the maximum concurrent session limit.

For network licenses, please wait for other users to end their feature usage, then try again.

To further check license usage at your site, please contact your SCL license administrator.

The license does not include the requested feature

No Such Feature Exists

The license file found does not contain a valid feature for this version of the software.

Please check with your site manager for the valid features.

Cannot connect to the license server system

Cannot connect to license server system

The license server manager (lmgrd) has not been started yet, the wrong port@host or license file is being used, or the port or hostname in the license file has been changed.

This error can occur because of the following reasons:

- (lmgrd) daemon is not running

  The CODE V installer configures this as the **Flexlm Service 1 service**. Confirm that the Flexlm Service 1 is running on your Nodelocked or Network (Server) system. If you cannot find the Flexlm Service 1 service, try the following:

  – Reboot the system

  – Configure your licensing again

    See *Modifying License Options for Synopsys Common Licensing Nodelocked Licenses* on page 43 or *Modifying License Options for Synopsys Common Licensing Network Licenses* on page 50 to reconfigure the selected license type.

  – Contact CODE V Support

- Wrong port/host or license is being used

  See *Modifying License Options for Synopsys Common Licensing Nodelocked Licenses* on page 43 or *Modifying License Options for Synopsys Common Licensing Network Licenses* on page 50 to update the host name and port number for the license server.

- License file is expired

  If your license agreement is current, you can request an updated license from SolvNetPlus or from CODE V Support.

  If you need to renew your license agreement, contact optics@synopsys.com or your local distributor.

- License file contains an invalid Host ID

  Contact CODE V Support

- License file is not installed

  See *Modifying License Options for Synopsys Common Licensing Nodelocked Licenses* on page 43 or *Modifying License Options for Synopsys Common Licensing Network Licenses* on page 50 to install the license file.

For nodelocked licenses, there are situations where the licensing processes can be stopped and will not automatically restart. When you try to start the software you will get the `Cannot connect to the license server system` error. Under these circumstances you will need to restart your computer to get the licensing processes to restart.

A connection to the Synopsys Common Licensing license manager was lost

The complete error message is `A connection to the Synopsys Common Licensing license manager was lost, and the application has exhausted all of its retry attempts.`

Cannot connect to license server system.

For network licenses, check your network connection to your network license server.

For nodelocked licenses, try rebooting your computer, then try again.

If the error persists, contact codev_support@synopsys.com or your local distributor.

Include the following:

- A screenshot of the License Manager Error window
- The following files from the `licenses` folder (by default, `C:\Synopsys\licenses`):
  - `opslic.txt`
  - `flexlog.txt`

The license request was denied by the network license server

This error message can be received from multiple scenarios.

- The User/Host on EXCLUDE list for feature (FlexNet Licensing error: -38, -101)
- User/host not on INCLUDE list for feature (FlexNet Licensing error: -39)
- Checkout exceeds MAX specified in options file (FlexNet Licensing error: -87)

Please contact your SCL license administrator.

This error can occur for one of the following reasons:

- Max limit of users has been reached.
- You have been excluded from using this feature.
- The feature is reserved for others.

Time Tamper Error

A problem with the system clock has been detected.

This error may indicate that the system clock is currently set incorrectly, or has been set incorrectly in the past. Contact codev_support@synopsys.com or your local distributor and provide a copy of the error message, including the Host ID mentioned in the error message.

CODE V cannot find the Synopsys licensing service/daemon (snpslmd)

The Synopsys licensing service/daemon (snpslmd) is either down or inaccessible. The Synopsys licensing service/daemon can terminate because of the following reasons:

- All the features are expired for this version of the software.
- The license file is corrupted.
- The license file contains an invalid server Host ID.

If you are using a network license, your connection with the computer hosting the license service/daemon may have been interrupted. Check your network connection.

Firewall(s) must be configured to allow the Synopsys Common Licensing server (lmgrd.exe and snpslmd.exe) to communicate on ports 27020 and 27021. If you get an error such as a -96 FlexNet Licensing error, make sure both ports are open in any firewalls.

If you are using a nodelocked license, confirm that the Flexlm License 1 service is running.

Uninstall Synopsys Common Licensing

If instructed by CODE V Support, you can remove the Synopsys Common Licensing components from a system. Note that the Remove option in the CODE V installation wizard does not remove the Synopsys Common Licensing components.

Caution: Do not remove the Synopsys Common Licensing server unless you have confirmed that no other Synopsys products are using the Synopsys Common Licensing server instance.

The CODE V installer automates the installation and configuration of two Synopsys Common Licensing components. However, after installation the installer treats these components as separate installations and they are not included when you run the CODE V installation wizard and select the Remove option to uninstall CODE V.

Follow these instructions to remove the Synopsys Common Licensing components.

1. Log in to your system as an administrator.
2. Open Add and Remove Programs.
3. Uninstall **Optical/Photonic Solutions Licensing**.
4. Uninstall **SCL *Version***.
5. Restart the system.
6. (Optional) Delete the `C:\Synopsys` folder **only if you have no other Synopsys applications using that folder.**

Glossary

Client (machine)	The client, or client machine, is a computer that has CODE V installed on it, and is configured to request a license from a license server. For CODE V Legacy Licensing, this machine runs software that uses a *floating license*. For Synopsys Common Licensing, this machine runs Network Client software, which uses a *network license*.
CODE V Legacy Licensing	The method of licensing used in releases up to and including CODE V 2024.03. It is based on the Sentinel RMS™ License Manager.
Fixed License	Used with CODE V Legacy Licensing. A license associated with a specific USB dongle.
Floating License	Used with CODE V Legacy Licensing. A license managed by the OSG Floating License Manager.
Host ID	A string used to identify a computer or a USB dongle. The Synopsys SmartKeys site and delivery email reference the Host ID value when license key files are requested and delivered.
License Key file	A file containing the encoded license information that defines how CODE V may be used. Note that license key files are unique for each licensing method—Legacy and SCL—and are not interchangeable between the two methods. In an implementation where licensing is centrally managed by a license server, a license key file is installed only to the license server and not on its managed clients. In an implementation where licensing is not centrally managed, each computer running CODE V must have its own license key file.
License Server	The computer that hosts the software that regulates and protects application use on client machines. The license server communicates with client machines over the network to manage their licenses. Note that License Server Software must match the method of licensing used by its clients. CODE V Legacy Licensing is based on Sentinel RMS™ and installs an OSG Floating License Manager. Synopsys Common Licensing is based on FlexNet Licensing and installs a Synopsys Common Licensing server.
Network License	Used with Synopsys Common Licensing. A license managed by the Synopsys Common Licensing server.
Nodelocked License	Used with Synopsys Common Licensing. A license associated with a specific computer or USB dongle.
Site ID	A unique number used to identify a specific company. Every company that uses CODE V and other Synopsys software has a unique site ID.
SmartKeys	The SolvNetPlus page where you submit license key requests.

SolvNetPlus	The Synopsys customer portal (https://solvnet.synopsys.com). Customers who register for an account on this site can download CODE V software and licensing software, and request license keys. SolvNetPlus also provides access to technical articles, example files, macros, release notes, and FAQs, as well as product documentation, product learning, self-help, and other resources..
Synopsys Common Licensing (SCL)	The license management tool used by Synopsys. This method of licensing is available starting with CODE V version 2023.03. It is based on FlexNet Licensing.

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